



YR188-B537M

Service Engineer's Manual



PREFACE

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Version 1.00

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Compliance Information Statement (Declaration of Conformity Procedure) DoC FCC Part 15: This device complies with part 15 of the FCC Rules

Operation is subject to the following conditions:

- 1) This device may not cause harmful interference;
- 2) This device must accept any interference received including interference that may cause undesired operation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try one or more of the following measures:
 - Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and the receiver.
 - Plug the equipment into an outlet on a circuit different from that of the receiver.

Consult the dealer on an experienced radio/television technician for help.

Notice for Canada

This apparatus complies with the Class A limits for radio interference as specified in the Canadian Department of Communications Radio Interference Regulations. (Cet appareil est conforme aux norms de Classe A d'interference radio tel que specifie par le Ministere Canadien des Communications dans les reglements d'interference radio.)



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CAUTION: Lithium battery included with this board. Do not puncture, mutilate, or dispose of battery in fire. There will be danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by manufacturer. Dispose of used battery according to manufacturer instructions and in accordance with your local regulations.

About this Manual

This manual provides you with instructions on installing your TYAN YR188-B537M. This Manual is intended for experienced users and integrators with hardware knowledge of personal computers.

This manual consists of the following parts:

- Chapter1:** Provides an introduction to the TYAN YR188-B537M barebones, standard parts list, describes the external components, gives a table of key components, and provides block diagram of the system.
- Chapter2:** Covers procedures on installing the CPU, memory modules and hard drives.
- Chapter3:** Covers removal and replacement procedures for pre-installed components.
- Chapter4:** Covers the block diagram, MB layout and pin definitions for headers and jumpers.
- Chapter5:** Covers various BIOS settings that can be used to configure your system.
- Appendix:** List the cable connection and FRU part tables for reference of system setup, and technical support in case a problem arises with your system.

SAFETY INFORMATION

Before installing and using TYAN YR188-B537M, take note of the following precautions:

- Read all instructions carefully.
- Do not place the unit on an unstable surface, cart, or stand.
- Do not block the slots and opening on the unit, which are provided for ventilation.
- Only use the power source indicated on the marking label. If you are not sure, contact the power company.
- The unit uses a three-wire ground cable, which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If your outlet does not support this kind of plug, contact your electrician to replace your obsolete outlet.
- Do not place anything on the power cord. Place the power cord where it will not be in the way of foot traffic.
- Follow all warnings and cautions in this manual and on the unit case.
- Do not push objects in the ventilation slots as they may touch high voltage components and result in shock and damage to the components.
 - When replacing parts, ensure that you use parts specified by the manufacturer.
- When service or repairs have been done, perform routine safety checks to verify that the system is operating correctly.
- Avoid using the system near water, in direct sunlight, or near a heating device.
- Cover the unit when not in use.

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Chapter 1: Overview

1.1 About the TYAN YR188-B537M

Congratulations on your purchase of the TYAN[®] YR188-B537M, a highly optimized rack-mountable barebone system. The YR188-B537M is designed to support one Intel[®] 5200/5400 processor and up to 32GB DDR2-667/533 memory per node, providing a rich feature set and incredible performance. Leveraging advanced technology from Intel[®], YR188-B537M server system is capable of offering scalable 32 and 64-bit computing, high bandwidth memory design, and lightning-fast PCI-E bus implementation. The YR188-B537M not only empowers your company in nowadays IT demand but also offers a smooth path for future application usage.

TYAN[®] is also proud to deliver the YR188-B537M in flavor while supporting up to eight hot-swap hard drives (four per node). The YR188-B537M uses TYAN[®]'s latest chassis featuring a robust structure and a solid mechanical enclosure. All of this provides YR188-B537M the power and flexibility to meet the needs of nowadays server application.



1.2 Product Models

Model	HDD Bays	Power supply
B537MY188S1 (one node)	Hot-swap, 4 HDDs	(1) 450W
B537MY188S2 (two nodes)	Hot-swap, 8 HDDs	(2) 450W

1.3 Features

TYAN YR188-B537M (B537MY188S2)			
System	Form Factor		1U Rackmount
	Chassis Name		YR188
	Dimension (H x W x D)		1.71" x 17.26" x 28.74" (43.5 x 438.5 x 730mm)
	Node Carrier Dimension		1.61" x 8.35" x 28.74" (40.8 x 212 x 730mm)
	Feature		Two nodes in one chassis
Front Panel	Buttons		(1) RST / (1) ID / (1) PWR
	LEDs		(1) Power / (1) BMC / (2) LAN / (1) HDD
	I/O Ports		(2) USB ports
External Drive Bay	Type / Q'ty		2.5" Hot-Swap / (4) per node, total (8)
	Supported HDD Interface		SATA-II 3.0Gb/s
System Cooling Configuration	FAN		(3) 4cm fans per node, total (6)
Power Supply	Output Watts		(1) 450 Watts per node, total (2)
	Efficiency		PFC
Processor	Supported CPU Series		Intel® Xeon® processor 5400/5200 series
	Socket Type / Q'ty		LGA771
	Thermal Design Power (TDP) wattage		80W
	System Bus		FSB 1333/1066MHz
Chipset	MCH / ICH		Intel 5100 / ICH9R
	Super I/O		Winbond W83627DHG
Memory	Supported DIMM Qty		(8) DIMM sockets per node, total (16)
	DIMM Type / Speed		DDR2 667/533 RDIMM
	Capacity		Up to 32GB RDIMM per node, total 64GB
	Memory channel		2 Channels
Expansion Slots	PCI-E		(1) PCI-E Low-Profile x16 slot per node, total (2)
	Pre-installed TYAN Riser Card		M2087-R, PCI-E x16 1U riser card (right)
LAN	Port Q'ty		(2) per node, total (4)
	Controller		Intel 82571EB
Storage	SATA	Controller	ICH9R
		Speed	3.0 Gb/s
		RAID	RAID 0/1/10/5 (Intel® Matrix RAID)
Graphic	Chipset		XGI Volari™ Z9s

I/O Ports	USB		(4) ports (2 at front, 2 at rear) per node, total (8)
	COM		(1) DB-9 port per node, total (2)
	VGA		(1) D-sub port per node, total (2)
	RJ-45		(3) ports per node, total (6)
System Monitoring	Chipset		Winbond W83793G
	Voltage		Monitors voltage for CPU, memory, chipset & power supply
	Temperature		Monitors temperature for CPU & system environment
	LED		Fan fail LED indicator / Over temperature warning indicator
	Others		Watchdog timer support
Server Management	Optional SMDC		M3296 IPMI 2.0 remote system management card
	M3296 Feature		KIRA 100 (Single Chip KVM/IP+IPMI processor) / KVM over IP / Video output over LAN (1280x1024) / Card interface: DDR2 SO-DIMM socket / USB2 high speed interface / Remote CD-ROM (media) redirect / Remote power on/off, reset and soft off
BIOS	Brand / ROM size		AMI / 1MB
	Feature		Plug and Play (PnP) / PCI2.3 / WfM2.0 / SMBIOS2.3 / PXE boot / ACPI 2.0 power management / Power on mode after power recovery / User-configurable H/W monitoring / Auto-configurable of hard disk types / Multiple boot options
Operating System	OS supported list		<u>Please refer to our OS supported list.</u>
Regulation	FCC (DoC)		Class A
	CE (DoC)		Yes
Operating Environment	Operating Temp.		10° C ~ 35° C (50° F ~ 95° F)
	Non-operating Temp.		- 40° C ~ 70° C (-40° F ~ 158° F)
	In/Non-operating Humidity		90%, non-condensing at 35° C
RoHS	RoHS 6/6 Complaint		Yes
Contains	Barebone		(1) B537MY188S2 Barebone
	Manual		(1) MB Quick Reference + (1) BB User's manual
	Installation CD		(1) TYAN installation CD
	Heatsink / Cooler		(2) LGA771 CPU heatsinks
	Rail kit		(1) sliding rail kit
	Cable	Power Cord	(2) CCBL-0310, US type power cord / (2) CCBL-0300, EU type power cord
Optional accessories for future upgrade	SMDC IPMI Card		M3296

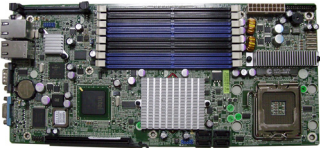
TYAN YR188-B537M (B537MY188S1)		
System	Form Factor	1U Rackmount
	Chassis Name	YR188
	Dimension (H x W x D)	1.71" x 17.26" x 28.74" (43.5 x 438.5 x 730mm)
	Node Carrier Dimension	1.61" x 8.35" x 28.74" (40.8 x 212 x 730mm)
	Feature	One nodes in one chassis
Front Panel	Buttons	(1) RST / (1) ID / (1) PWR
	LEDs	(1) Power / (1) BMC / (2) LAN / (1) HDD
	I/O Ports	(2) USB ports
External Drive Bay	Type / Q'ty	2.5" Hot-Swap / (4) per node
	Supported HDD Interface	SATA-II 3.0Gb/s
System Cooling Configuration	FAN	(3) 4cm fans per node
Power Supply	Output Watts	(1) 450 Watts per node
	Efficiency	PFC
Processor	Supported CPU Series	Intel® Xeon® processor 5400/5200 series
	Socket Type / Q'ty	LGA771
	Thermal Design Power (TDP) wattage	80W
	System Bus	FSB 1333/1066MHz
Chipset	MCH / ICH	Intel 5100 / ICH9R
	Super I/O	Winbond W83627DHG
Memory	Supported DIMM Qty	(8) DIMM sockets per node
	DIMM Type / Speed	DDR2 667/533 RDIMM
	Capacity	Up to 32GB RDIMM per node
	Memory channel	2 Channels
Expansion Slots	PCI-E	(1) PCI-E Low-Profile x16 slot per node
	Pre-installed TYAN Riser Card	M2087-R, PCI-E x16 1U riser card (right)
LAN	Port Q'ty	(2) per node
	Controller	Intel 82571EB
Storage	SATA	Controller ICH9R
		Speed 3.0 Gb/s
		RAID RAID 0/1/10/5 (Intel® Matrix RAID)
Graphic	Chipset	XGI Volari™ Z9s
I/O Ports	USB	(4) ports (2 at front, 2 at rear) per node
	COM	(1) DB-9 port per node

	VGA		(1) D-sub port per node
	RJ-45		(3) ports per node
System Monitoring	Chipset		Winbond W83793G
	Voltage		Monitors voltage for CPU, memory, chipset & power supply
	Temperature		Monitors temperature for CPU & system environment
	LED		Fan fail LED indicator / Over temperature warning indicator
	Others		Watchdog timer support
Server Management	Optional SMDC		M3296 IPMI 2.0 remote system management card
	M3296 Feature		KIRA 100 (Single Chip KVM/IP+IPMI processor) / KVM over IP / Video output over LAN (1280x1024) / Card interface: DDR2 SO-DIMM socket / USB2 high speed interface / Remote CD-ROM (media) redirect / Remote power on/off, reset and soft off
BIOS	Brand / ROM size		AMI / 1MB
	Feature		Plug and Play (PnP) / PCI2.3 / WfM2.0 / SMBIOS2.3 / PXE boot / ACPI 2.0 power management / Power on mode after power recovery / User-configurable H/W monitoring / Auto-configurable of hard disk types / Multiple boot options
Operating System	OS supported list		<u>Please refer to our OS supported list.</u>
Regulation	FCC (DoC)		Class A
	CE (DoC)		Yes
Operating Environment	Operating Temp.		10° C ~ 35° C (50° F ~ 95° F)
	Non-operating Temp.		- 40° C ~ 70° C (-40° F ~ 158° F)
	In/Non-operating Humidity		90%, non-condensing at 35° C
RoHS	RoHS 6/6 Complaint		Yes
Contains	Barebone		(1) B537MY188S1 Barebone
	Manual		(1) MB Quick Reference + (1) BB User's manual
	Installation CD		(1) TYAN installation CD
	Heatsink / Cooler		(1) LGA771 CPU heatsink
	Rail kit		(1) sliding rail kit
	Cable	Power Cord	(2) CCBL-0310, US type power cord / (2) CCBL-0300, EU type power cord
Optional accessories for future upgrade	SMDC IPMI Card		M3296

1.4 Standard Parts List

This section describes the YR188-B537M package contents and accessories. Open the box carefully and ensure that all components are present and undamaged. The product should arrive packaged as illustrated below.

1.4.1 Box Contents Per Node

Component	Description
	1U chassis, 2 nodes (B537MY188S2) 1U chassis, 1 node (B537MY188S1) (4) hot swap HDD bays per node
	TYAN® S537M system board (pre-installed)
	450W single Power Supply (pre-installed)
	(3) System FAN (pre-installed)
	Power Distribution Board (pre-installed)
	SATA HDD Backplane Board (pre-installed)
	M2087-R PCI-E riser card (pre-installed)
	Front Panel Board (pre-installed)

1.4.2 Accessories

If any items are missing or appear damaged, contact your retailer or browse to TYAN[®]'s website for service: <http://www.tyan.com>
The web site also provides information of other TYAN[®] products, as well as FAQs, compatibility lists, BIOS settings, etc.



1 x TYAN[®]
Motherboard Drive
CD



1 Heatsink (B537MY188S1)
2 Heatsinks (B537MY188S2)



HDD Screws



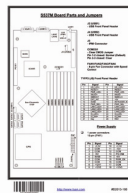
Power Cables

(Left to right: Europe, US)

1 Europe + 1 US (B537MY188S1)
2 Europe + 2 US (B537MY188S2)



Barebone Manual



Mainboard Quick Reference

Rail Kit



Rail x 2

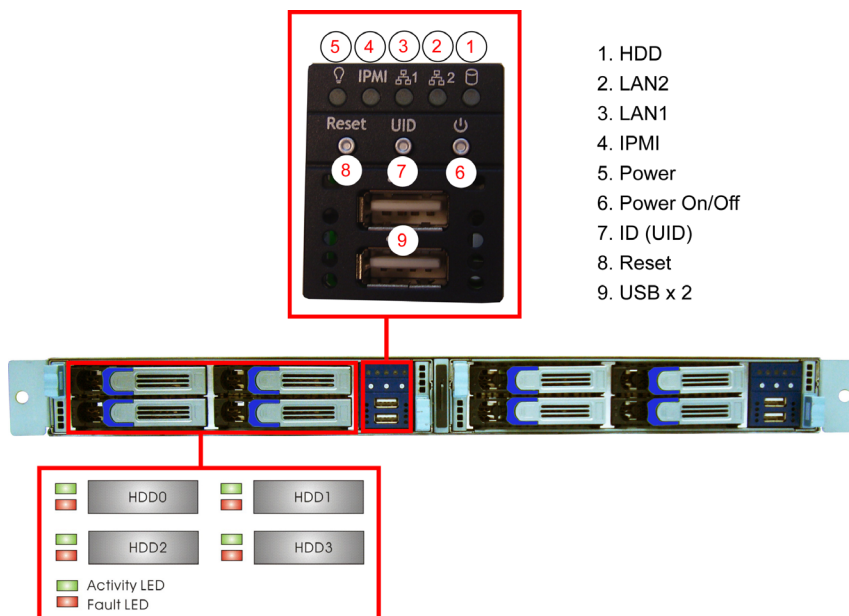


Screw Pack

1.5 About the Product

The following views show you the product.

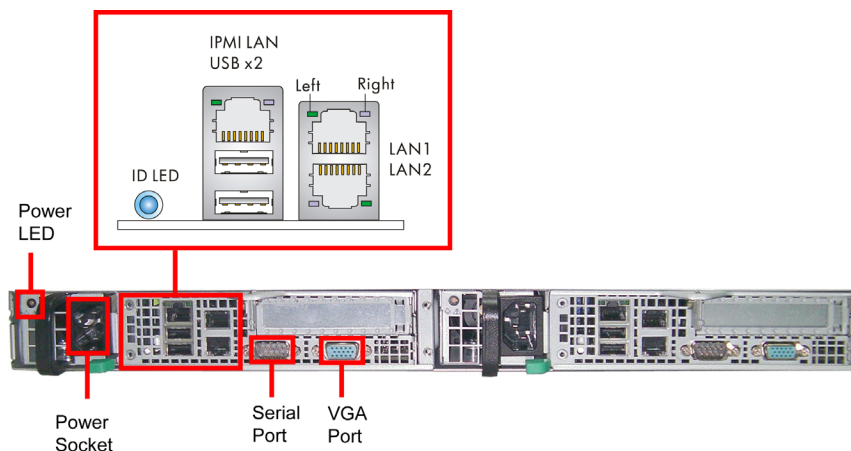
1.5.1 System Front View (Per Node)



HDD LED	Description
Activity LED: Off Fault LED: Off	Drive present, no activity
Activity LED: blinking green Fault LED: Off	Drive present, with activity
Activity LED: Off Fault LED: Red	HDD Fail
Activity LED: random Fault LED: blinking red @ 4 Hz	Identify
Activity LED: random Fault LED: blinking red @ 1 Hz	Rebuild

Front Panel LED	Description
Power	Green: Power On
IPMI	Green: Normal Status Amber: System Failed Without IPMI module: FAN failed system thermal problem With IPMI module: IPMI fault alert event is raised.
LAN1	Green: Link Blinking Green: Activity
LAN2	Green: Link Blinking Green: Activity
HDD	Green: Ready Blinking Green: Activity Red: TBD
Front Panel Button	Description
Power On/ Off	Power up and power down the system (Use a pin)
ID (UID)	Press once and the blue ID LED on the rear panel will light up
Reset	Press to reset the system

1.5.2 System Rear View (Per Node)



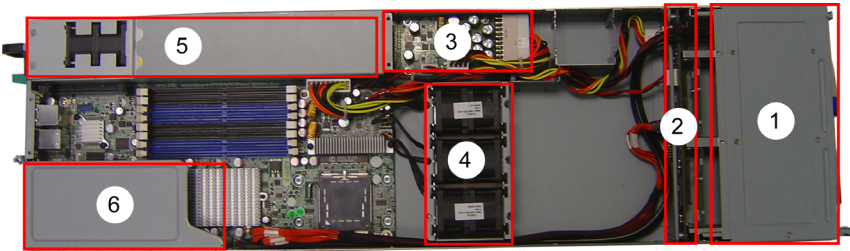
→ID LED: When the ID button on the front panel is pressed, the blue ID LED on the rear panel will light up. The technical personnel can easily locate the system on the rack, disconnect cables from the system, and remove it from the rack for later repair.

→LAN LED: The three onboard Ethernet ports have green and amber LEDs to indicate LAN status. The table below illustrates the different LED states.

Ethernet LAN Link/Activity LED	Description
Left: slow blinking green Right: Off	10 Mbps Link
Left: blinking green Right: Off	10 Mbps Activity
Left: slow blinking green Right: green	100 Mbps Link
Left: blinking green Right: green	100 Mbps Activity
Left: slow blinking green Right: amber	1000 Mbps Link

Left: blinking green Right: amber	1000 Mbps Activity
Left: Off Right: Off	No Link

1.5.3 Internal View (Per Node)



Number	Description
1	HDD Cage
2	SATA HDD Backplane Board
3	Power Distribution Board
4	System Fans
5	Power Supply
6	PCI-E Riser Card Assembly

NOTE

Chapter 2: Setting Up

2.0.1 Before you Begin

This chapter explains how to install the CPUs, CPU heatsinks, memory modules, and hard drives. Instructions on inserting add on cards are also given.

2.0.2 Work Area

Make sure you have a stable, clean working environment. Dust and dirt can get into components and cause malfunctions. Use containers to keep small components separated. Putting all small components in separate containers prevents them from becoming lost. Adequate lighting and proper tools can prevent you from accidentally damaging the internal components.

2.0.3 Tools

The following procedures require only a few tools, including the following:

- A cross head (Phillips) screwdriver
- A grounding strap or an anti-static pad

Most of the electrical and mechanical connections can be disconnected with your hands. It is recommended that you do not use pliers to remove connectors as it may damage the soft metal or plastic parts of the connectors.

2.0.4 Precautions

Components and electronic circuit boards can be damaged by discharges of static electricity. Working on a system that is connected to a power supply can be extremely dangerous. Follow the guidelines below to avoid damage to YR188-B537M or injury to yourself.

- Ground yourself properly before removing the top cover of the system. Unplug the power from the power supply and then touch a safely grounded object to release static charge (i.e. power supply case). If available, wear a grounded wrist strap. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.
- Avoid touching motherboard components, IC chips, connectors, memory modules, and leads.
- The motherboard is pre-installed in the system. When removing the motherboard, always place it on a grounded anti-static surface until you are ready to reinstall it.
- Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Do not flex or stress circuit boards.
- Leave all components inside the static-proof packaging that they ship with until they are ready for installation.
- After replacing optional devices, make sure all screws, springs, or other small parts are in place and are not left loose inside the case. Metallic parts or metal flakes can cause electrical shorts.



Note:

All connectors are keyed to only attach one way.

All use the correct screw size as indicated in the procedures.

2.1 Installing Motherboard Components

This section describes how to install components on to the mainboard, including CPUs, memory modules, HDD and add on cards.

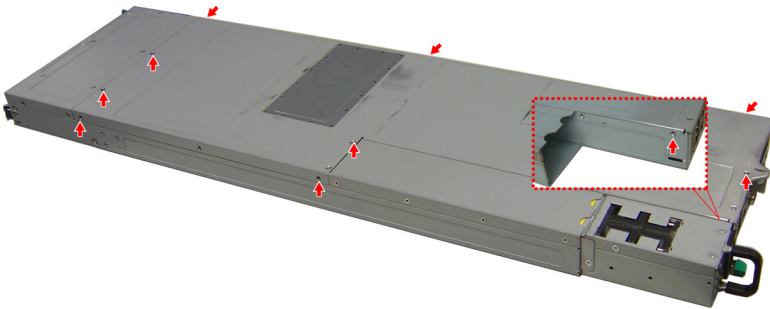
2.1.1 Installing Hard Drives

The YR188-B537M supports four 2.5" hard drives per node. Follow these instructions to install a hard drive.

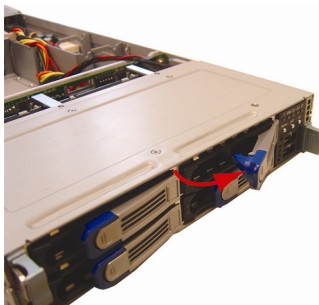
1. Press the locking tabs at both sides to pull the node out.



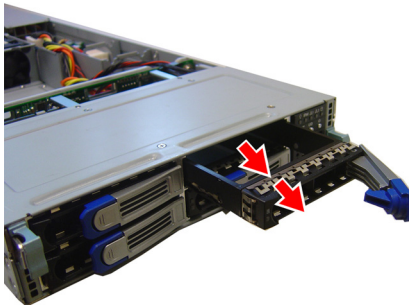
2. First remove the power supply (see **3.9 Replacing the Power Supply** for details). Unscrew to lift up the node cover.



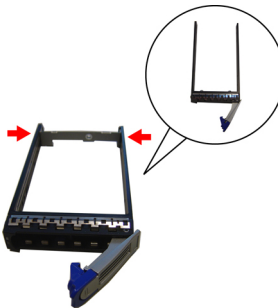
3. Press the locking lever latch and pull the locking lever open.



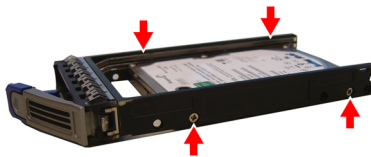
- Slide the HDD tray out.



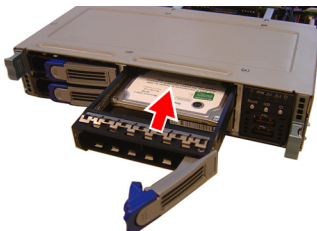
- Unscrew the HDD tray bracket.



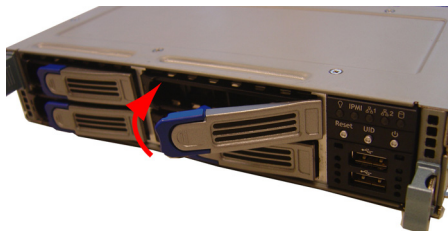
- Place a hard drive into the drive tray. Use four screws to secure the HDD.



- Reinsert the HDD tray into the chassis.



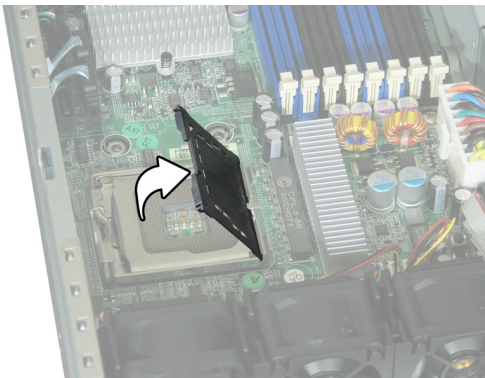
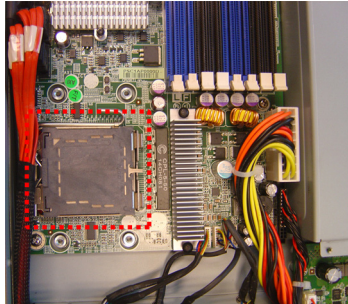
8. Press the locking lever to secure the tray. Repeat the same procedures to install other HDD trays.



2.1.2 Installing the CPU and Heatsink

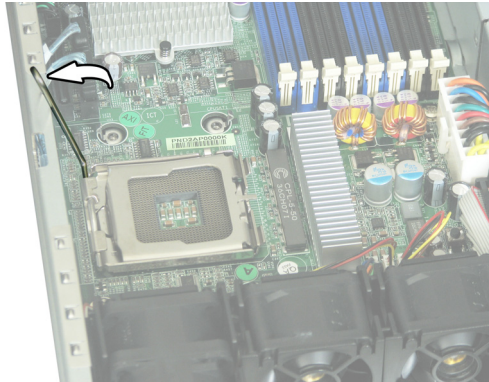
Follow the steps below to install the processor and heatsink.

1. Locate the CPU socket.

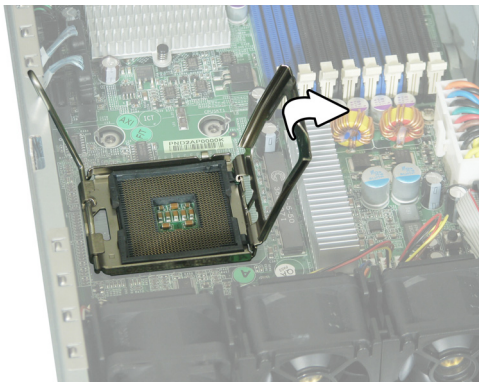


2. Take off the CPU protection cap.

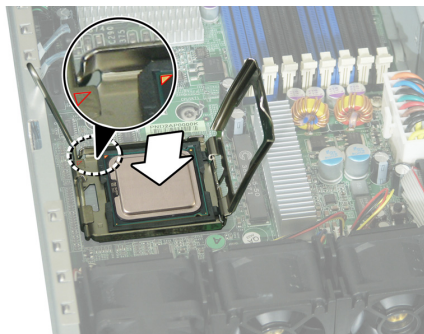
3. Pull the CPU lever up to unlock the CPU socket

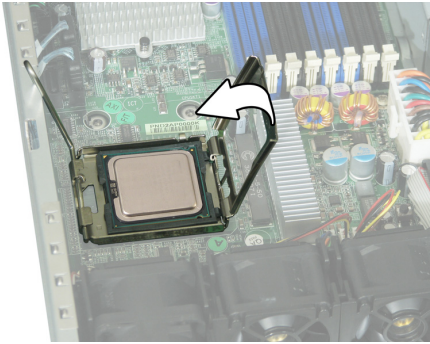


4. Open the socket in the direction as shown.

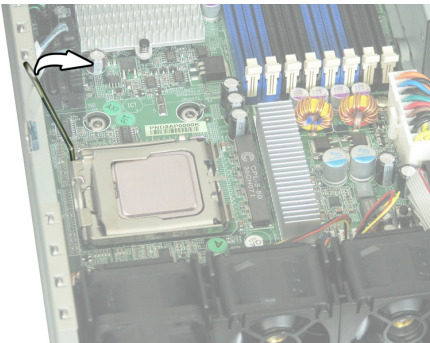


5. Place the CPU in the CPU socket, ensuring that pin 1 is located as shown below.

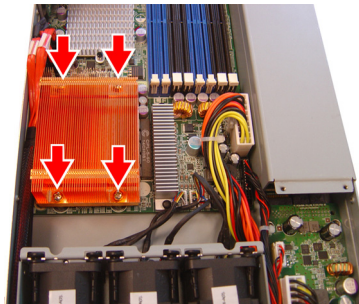




6. Close the socket and press the CPU socket lever down to secure the CPU.



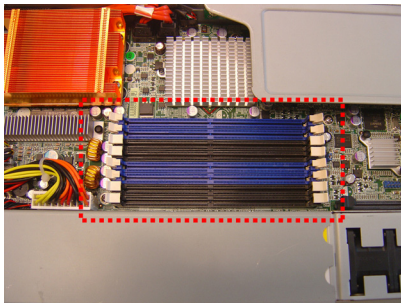
7. Place the heatsink on top of the CPU and secure it with 4 screws.



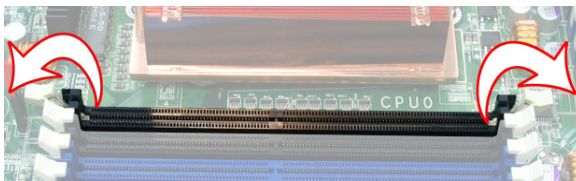
2.1.3 Installing the Memory

Follow these instructions to install the memory modules onto the motherboard.

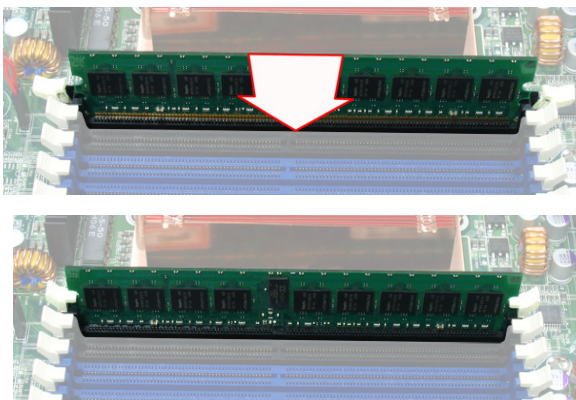
1. Locate the memory slots on the motherboard.



2. Press the memory slot locking levers in the direction of the arrows as shown in the following illustration.

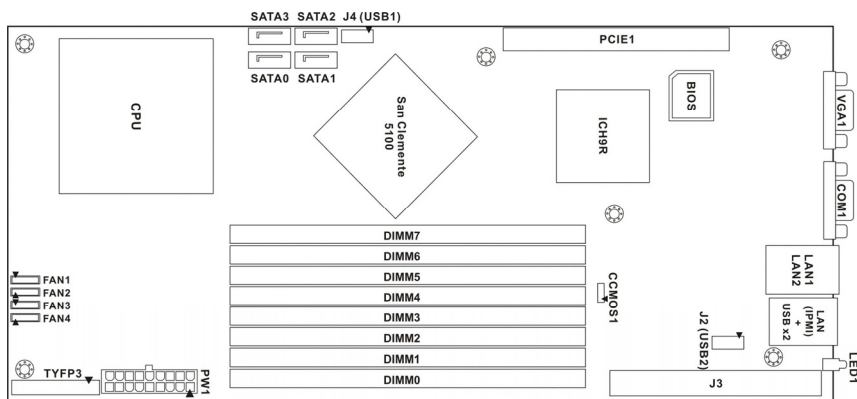


3. Align the memory module with the slot. When inserted properly, the memory slot locking levers lock automatically onto the indentations at the ends of the module.



Memory Population Option Table

The following table outlines the suggested rules for populating memory.



Memory Population Rules				
DIMM Configuration	DIMM7	DIMM5	DIMM3	DIMM1
Four DIMMs per Channel 1	Empty	Empty	Empty	Single Rank
	Empty	Empty	Single Rank	Single Rank
	Empty	Single Rank	Single Rank	Single Rank
	Single Rank	Single Rank	Single Rank	Single Rank
	Empty	Empty	Empty	Dual Rank
	Empty	Empty	Dual Rank	Dual Rank
DIMM Configuration	DIMM6	DIMM4	DIMM2	DIMM0
Four DIMMs per Channel 0	Empty	Empty	Empty	Single Rank
	Empty	Empty	Single Rank	Single Rank
	Empty	Single Rank	Single Rank	Single Rank
	Single Rank	Single Rank	Single Rank	Single Rank
	Empty	Empty	Empty	Dual Rank
	Empty	Empty	Dual Rank	Dual Rank

Note:



- 1). For optimal dual channel operations, always install memory in pairs beginning with DIMM0 and DIMM1.
- 2). For single channel mode, install one DIMM at DIMM0 or DIMM1. Others must be in dual channel mode.

2.2 Rack Mounting

After installing the necessary components, the TYAN YR188-B537M can be mounted in a rack using the supplied rack mounting kit.

Rack mounting kit

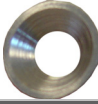
No.	Item	Description	Quantity
A		Sliding rails	2
B		Screw kit	1

2.2.1 Installing the Server in a Rack

Follow these instructions to mount the TYAN YR188-B537M into an industry standard 19" rack.

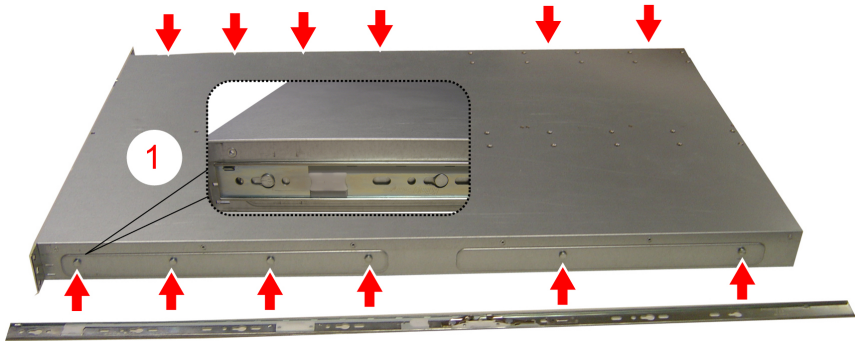
NOTE: Before mounting the TYAN YR188-B537M in a rack, ensure that all internal components have been installed and that the unit has been fully tested.

Screw Kit List

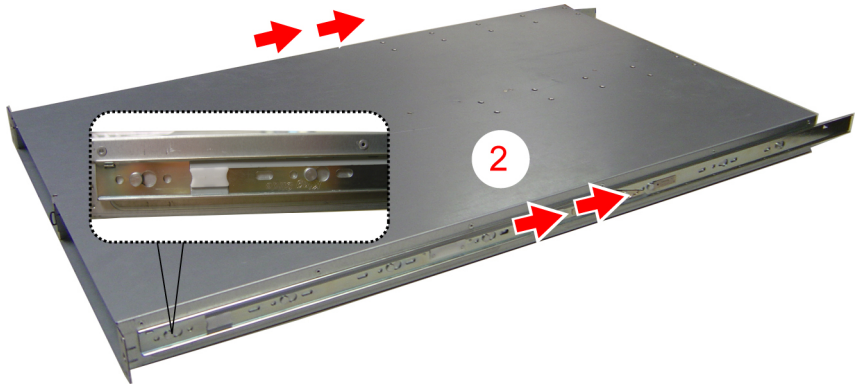
No.	Screw	Size	Quantity
A		M5	8
B		Washer	8
Total: A+B		M5 and Washer	Total: 8 sets

2.2.2 Installing the inner Rails to the Chassis

1. Draw out the inner rails from the rail assembly. Install inner rails to left and right side of chassis.

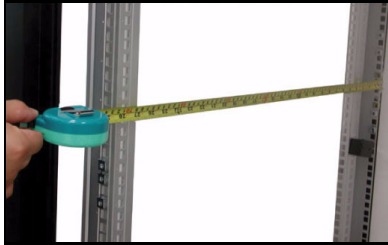


2. Pull the rails backwards to lock the rails in place.

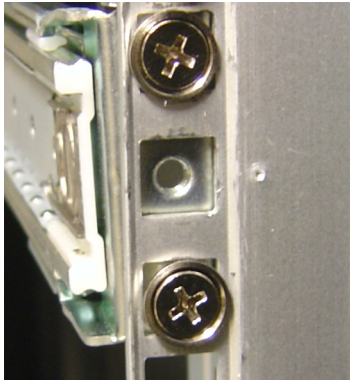


2.2.3 Installing the Outer Rails to the Rack

1. Measure the distance between inner side of the front and rear mounting brackets in the rack.

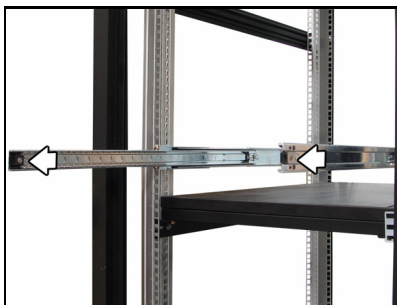


2. Secure the outer rail to the rack using 4 M5 screws and 4 washers (2 sets front / 2 sets rear) for each side. Secure the rails to the rack as shown.

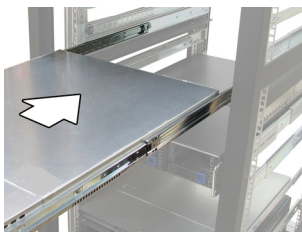


2.2.4 Rack mounting the Server

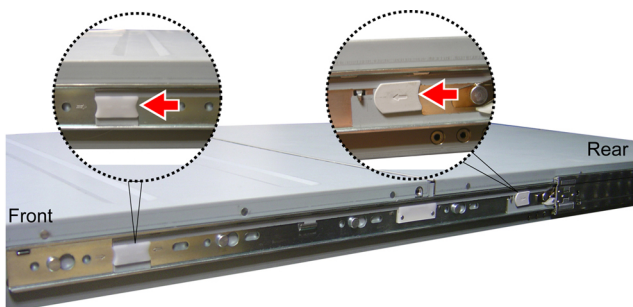
3. Draw out the middle rail to the latch position.



4. Lift the chassis and then insert the inner slide rails into the middle rails.



5. Press the front latch keys on both sides of the chassis to push the system into the rack. To pull the whole system out, press the rear latch keys on both sides of the chassis.



Note:

To avoid injury, it is strongly recommended that two people lift the TYAN YR188-B537M into the place while a third person screws it to the rack.

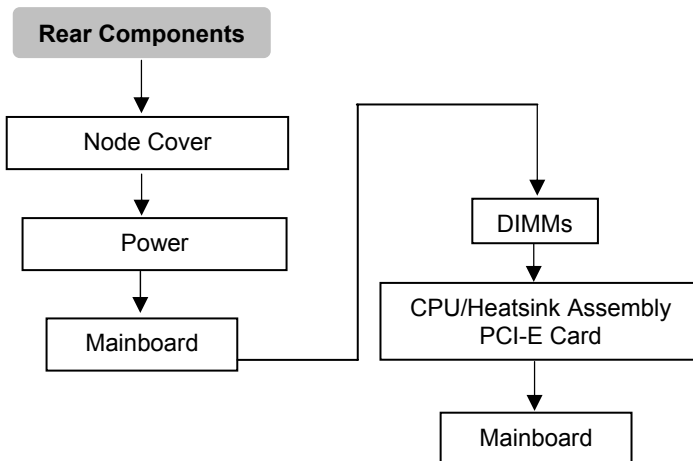
Chapter 3: Replacing Pre-Installed Components

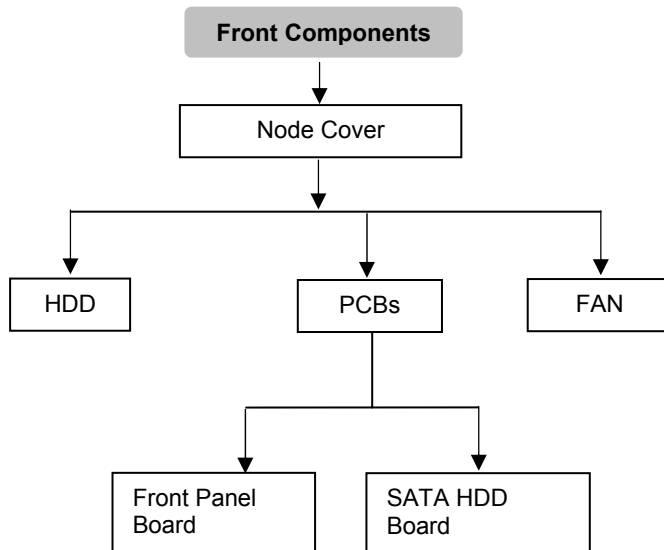
3.1 Introduction

This chapter explains how to replace the pre-installed components, including the Motherboard, front panel board, SATA HDD board, M2087-R PCI-E Riser card, System fans, and Power supply unit etc.

3.2 Disassembly Flowchart

The following flowchart outlines the disassembly procedure.





3.3 Removing the Cover

Before replacing any parts you must pull the node out first.
Follow **Chapter 2.1.4** to remove the node cover.

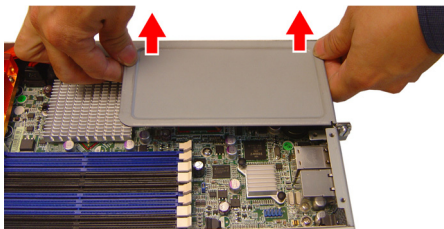
3.4 Replacing Motherboard Components

Follow these instructions to replace motherboard components, including the motherboard.

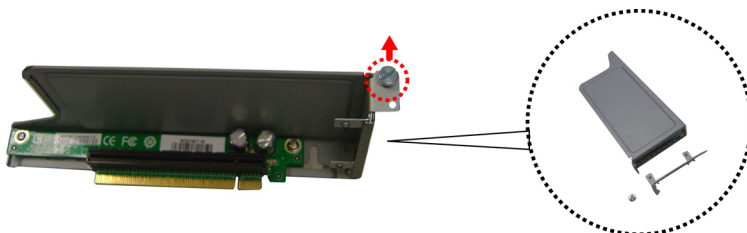
3.4.1 Replacing Expansion Card

The YR188-B537M has **one preinstalled M2087-R** riser card, Follow the instructions below to disassemble the M2087-R and install a new riser card.

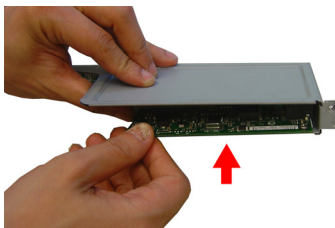
1. Locate the riser card assembly in the chassis. Lift the assembly up.



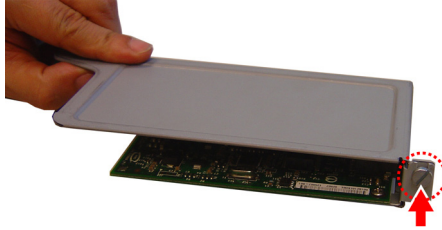
2. Unscrew the riser card assembly. Remove the bracket.



3. Install a **low-profile** riser card onto the assembly.



4. Screw the riser card to the assembly.



5. (optional for M2087-R) Unscrew to replace a new M2087-R card.

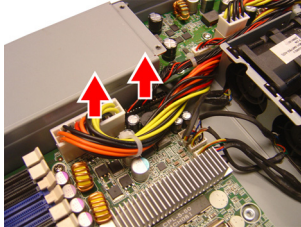


6. Follow the procedures mentioned earlier in reverse order to place the riser card assembly back into the chassis.

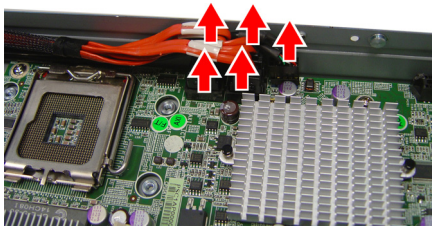
3.4.2 Disconnecting All Motherboard Cables

Before replacing the motherboard or certain components, remove cables connected to the motherboard. Follow these instructions to remove all motherboard cables.

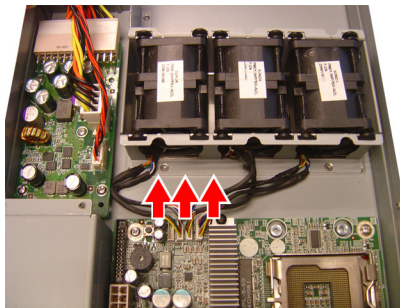
1. Disconnect all the power cable.



2. Disconnect SATA cables and front panel cable.



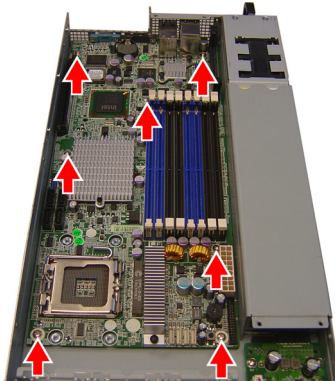
3. Disconnect fan cables.



3.4.3 Removing the Motherboard

After removing all of the aforementioned cables, follow the instructions below to remove the motherboard from the chassis.

1. Remove the heatsink and processor if installed.
2. Remove the seven screws securing the motherboard to the chassis.

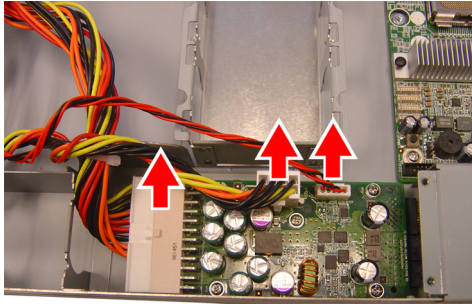


3. Carefully lift the motherboard from the chassis.

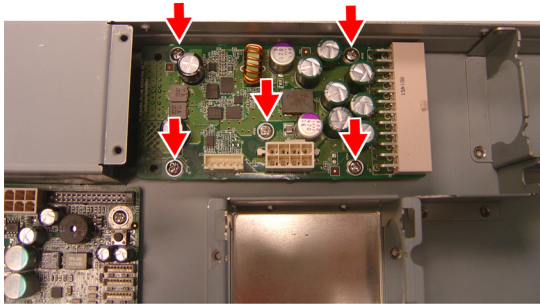
3.5 Replacing the Power Distribution Board

Follow these instructions to replace the Power Distribution Board.

1. Disconnect all cables from the power distribution board.



2. Unscrew to take out the power distribution board.

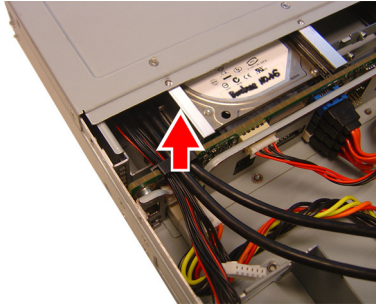


3. Repeat the procedures described earlier to replace a new power distribution board.

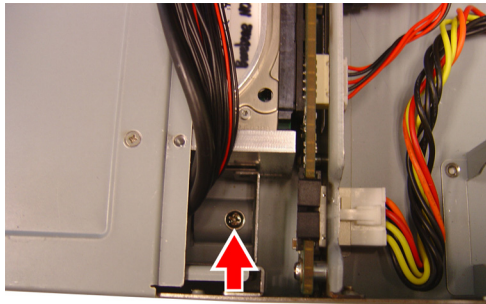
3.6 Replacing the Front Panel Board

Follow these instructions to replace the Front Panel board.

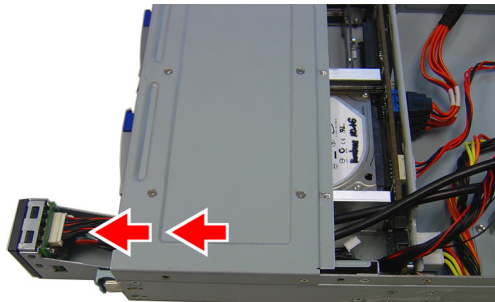
1. Release cables from the cable clip.



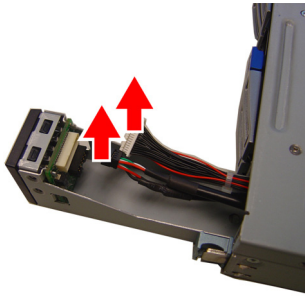
2. Unscrew the front panel tray.



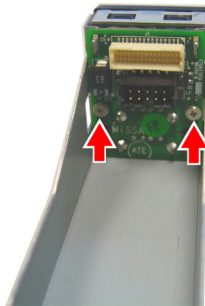
3. Pull the front panel tray from the chassis.



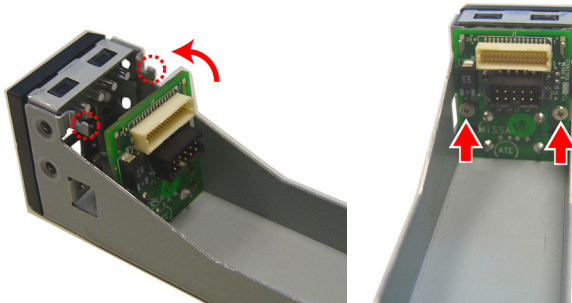
4. Disconnect cables from the front panel board.



5. Unscrew to take out the front panel board.

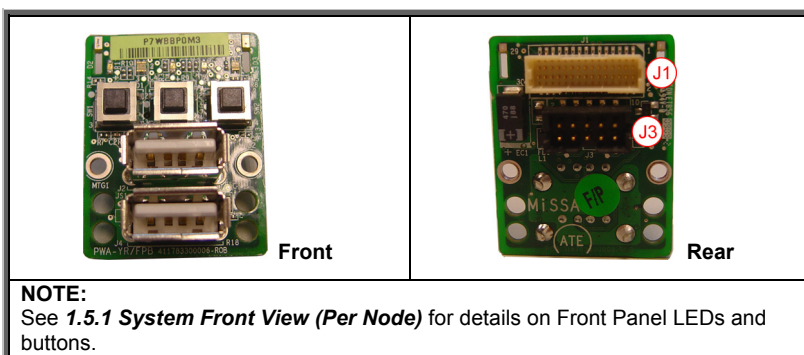


6. Replace a new front panel board and screw it to the front panel tray.



7. Repeat the procedures described earlier in reverse order to place the front panel tray back into place.

3.6.1 Front Panel Board Features



3.6.2 Front Panel Board Connector Pin Definition

J1: FPIO Connector

Pin	Net Name	Description	Pin	Net Name	Description
1	HD_LED+	HDD LED	16	LAN1_LINK#	LAN1 LED -
2	HD_LED-	HDD LED	17	LAN2_ACT	LAN2 LED +
3	RESET+	System Reset Switch+	18	LAN2_LINK#	LAN2 LED -
4	RESET-	System Reset Switch-	19	ID_LED +	Location LED +
5	PW_LED+	FPB power LED +	20	ID_LED -	Location LED -
6	PW_LED-	FPB power LED -	21	ID_SW +	Location Switch +
7	WLED+	IPMI LED	22	FP5V_STBY	5VSB power
8	WLED-	IPMI LED	23	FPB_HDD_ACTIVITY_G-	HDD Green LED
9	SMBDAT	I ² C BUS Data	24	FPB_HDD_FAULT_R-	HDD Red LED
10	SMBCLK	I ² C BUS Clock	25	SMBCLK	I ² C BUS Clock
11	EXT_INT	FPB NMI	26	BPGND	Ground
12	FP_GND	Ground	27	SMBDAT	I ² C BUS Data
13	PWR_SW+	Power Switch +	28	EXT_INT	FPB NMI
14	PWR_SW#	Power Switch -	29	NC	
15	LAN1_ACT	LAN1 LED +	30	NC	

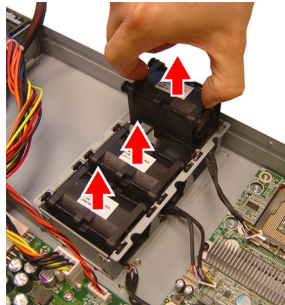
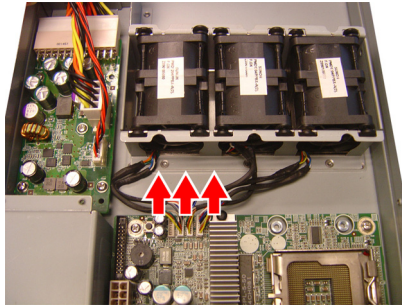
J3: USB Connector

Pin	Net Name	Function	Pin	Net Name	Function
1	VCC_USB0	Power connect to 5V (for USB)	6	USB_P1_P	USB_P1 +
2	VCC_USB1	Power connect to 5V (for USB)	7	GND	Ground
3	USB_P0_N	USB_P0 -	8	GND	Ground
4	USB_P1_N	USB_P1 -	9	NC	
5	USB_P0_P	USB_P0 +	10	NC	

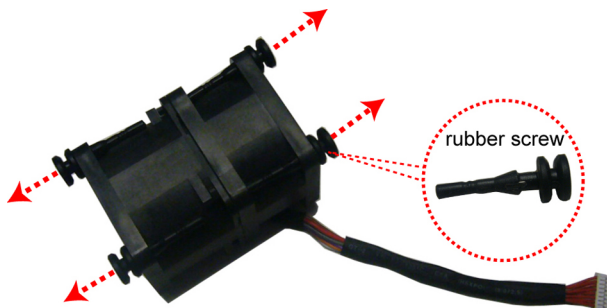
3.7 Replacing the System Fan

Follow these instructions to replace the cooling fans in your system.

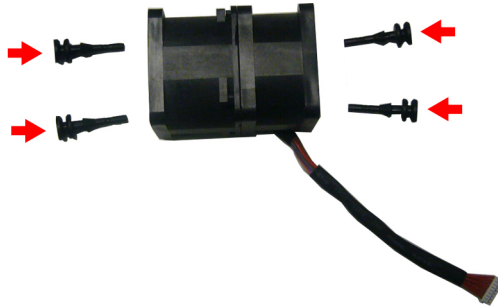
1. Locate the cooling fans in your system.
2. Unplug the cables connected to the mainboard and lift the fan unit up from the chassis.



3. Remove the rubber screws from the fan.



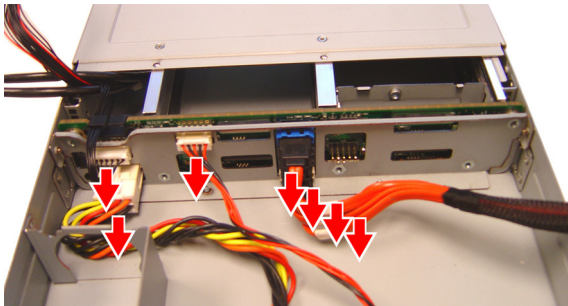
4. After replacing the new fans, reinstall the rubber screws into the fan.



5. Reinstall the fans into the chassis following the procedures described earlier in reverse order.
6. Connect the fan cables.

3.8 Replacing the SATA Backplane Board

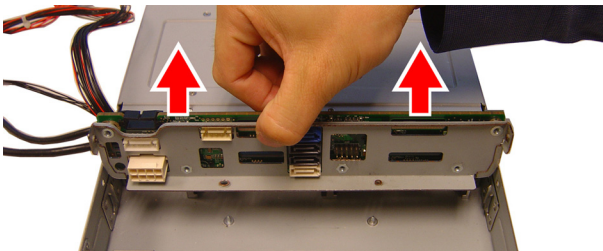
1. Disconnect all cables from the backplane board.



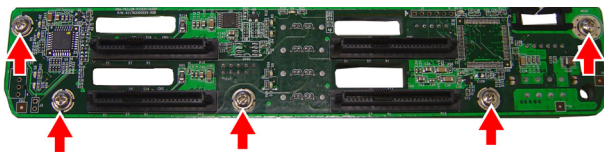
2. Unscrew the backplane bracket.



3. Lift the bracket up from the chassis.

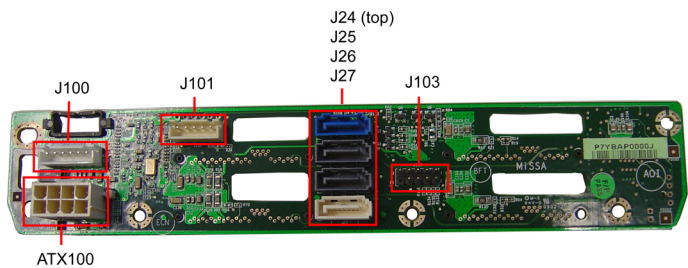


4. Unscrew the backplane board from the bracket. Replace a new SATA Backplane Board and reinstall it into the chassis following the above steps in reverse.

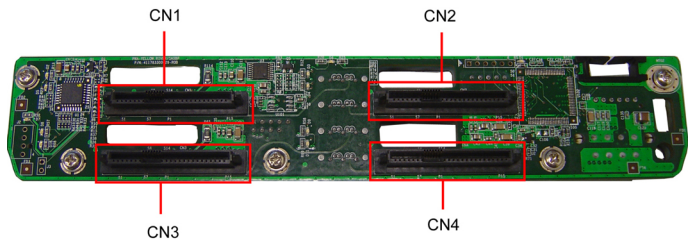


3.8.1 SATA Backplane Board Features

Front View



Rear View



Connector	Description
J24~27	SATA Connector
CN1~CN4	HDD Connector
ATX100	Power Connector
J100	I/O Connector
J101	SMBus Connector
J103	Sideband Connector

3.8.2 SATA Backplane Board Connector Pin Definitions

SATA Connector J24~J27

Pin	Definition	Description
1	GND	GND
2	TXP	Transmit pair
3	TXN	Transmit pair
4	GND	GND
5	RXN	Receive pair
6	RXP	Receive pair
7	GND	GND

HDD Connector CN1~CN4

Pin	Definition	Pin	Definition
S1	GND	P1	NC
S2	TX_P_HDD	P2	NC
S3	TX_N_HDD	P3	NC
S4	GND	P4	PRES
S5	RX_N_HDD	P5	GND
S6	RX_P_HDD	P6	GND
S7	GND	P7	VCC5_PRE
S8	GND	P8	5V
S9	NC	P9	5V
S10	NC	P10	GND
S11	GND	P11	ACTIVE#_HDD
S12	NC	P12	GND
S13	NC	P13	VCC12_PRE
S14	GND	P14	12V
		P15	12V

Power Connector ATX100

Pin	Definition	Description	Pin	Definition	Description
B1	GND	Power Ground	A1	VCC+12V_A	12V
B2	GND	Power Ground	A2	VCC+12V_A	12V
B3	GND	Power Ground	A3	VCC+5V_A	5V
B4	GND	Power Ground	A4	VCC3	3.3V

I/O Connector J100

Pin	Definition	Description
1	GLOBAL_ACT_OUT	GLOBAL_ACT_LED pin
2	GLOBAL_FAIL_OUT	GLOBAL_FAIL_LED pin
3	FPIO_SCL	FP SMBus Clock
4	GND	Ground
5	FPIO_SDA	FP SMBus Data
6	SMB_ALERT	SMBus Alert

SMBus Connector J101

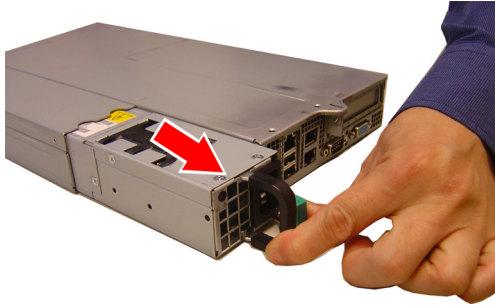
Pin	Definition	Description
1	NC	NC
2	SMB_ALERT	Power Management
3	FPIO_SCL	SMBus Clock
4	FPIO_SDA	SMBus Data
5	GND	Ground

Sideband Connector J103

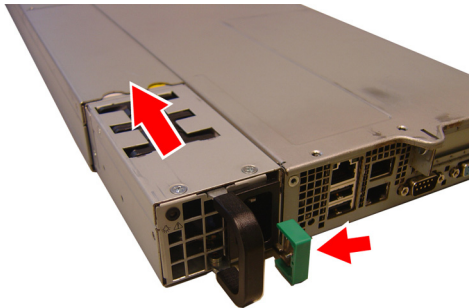
Pin	Definition	Description
1	SCLOCK	SGPIO
2	SDATAOUT	SGPIO
3	SLOAD	SGPIO
4	SDATAIN	SGPIO
5	NC	NC
6	NC	NC
7	NC	NC
8	NC	NC
9	GND	Ground

3.9 Replacing the Power Supply

1. Press and hold the latch to pull the power supply out.



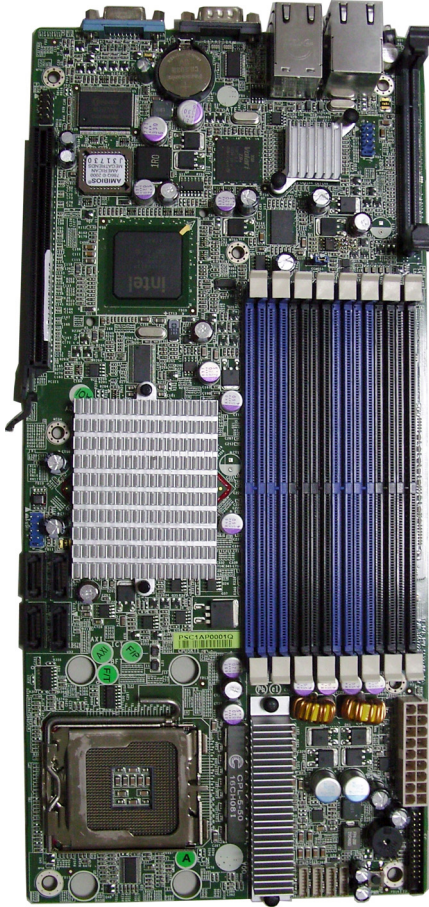
2. After replacing a new power supply, press and hold the latch to push the power supply back into the chassis.



NOTE

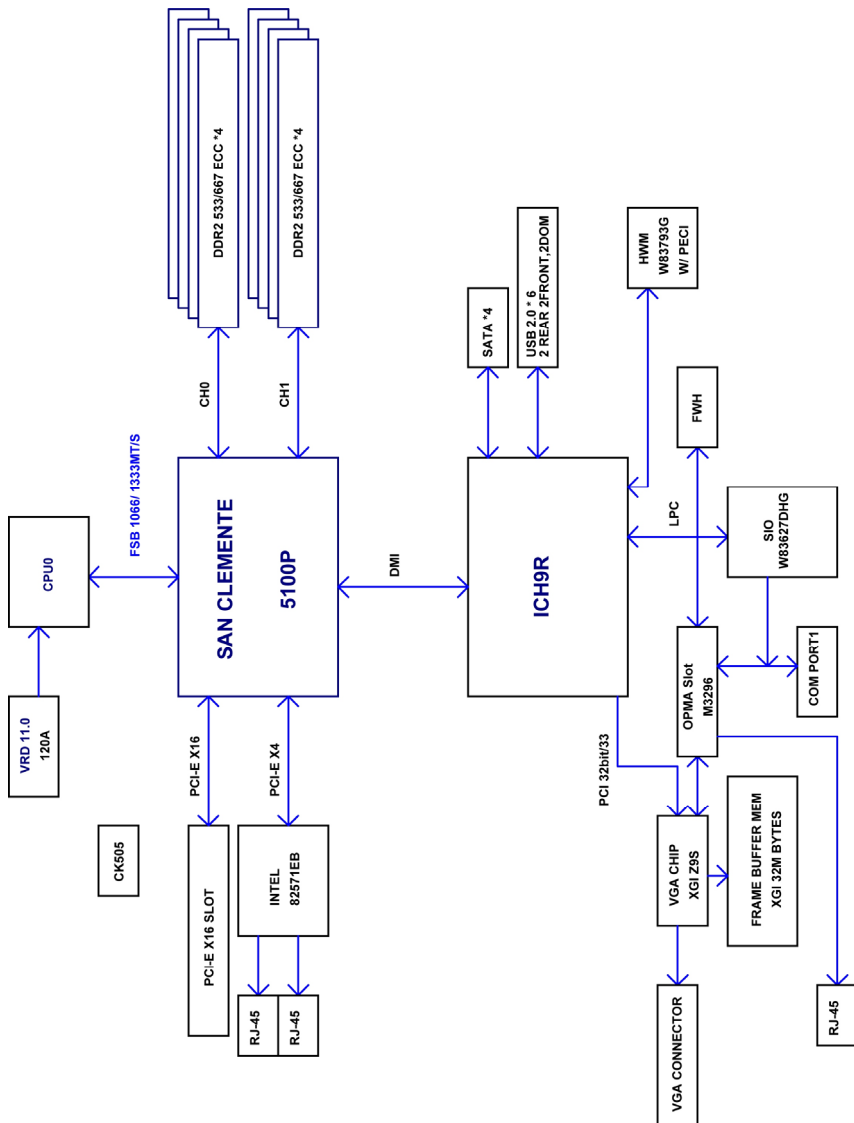
Chapter 4: Hardware Setup

4.1 Motherboard (S537M) Image

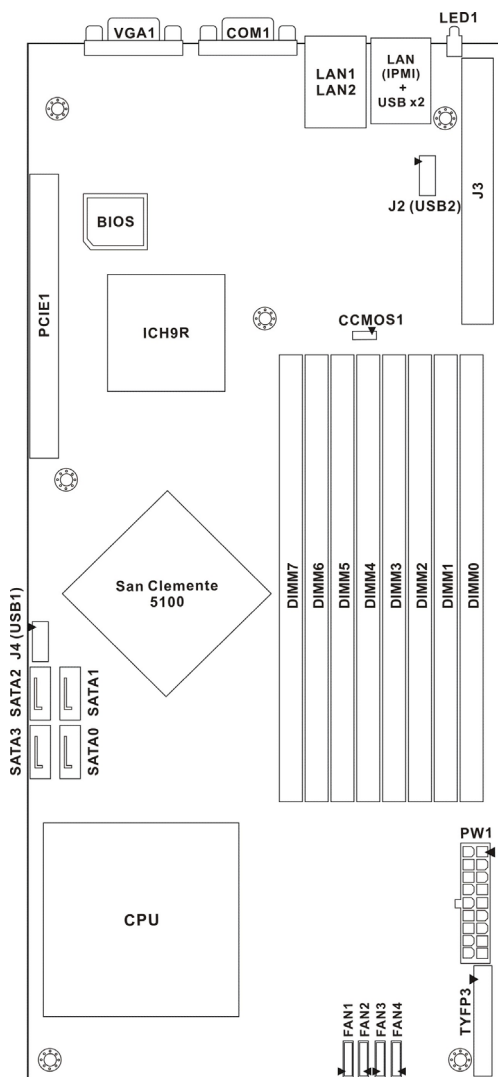


This picture is representative of the latest board revision available at the time of publishing. The board you receive may or may not look exactly like the above picture.

4.2 System Block Diagram



4.3 Board Parts, Jumpers and Connectors

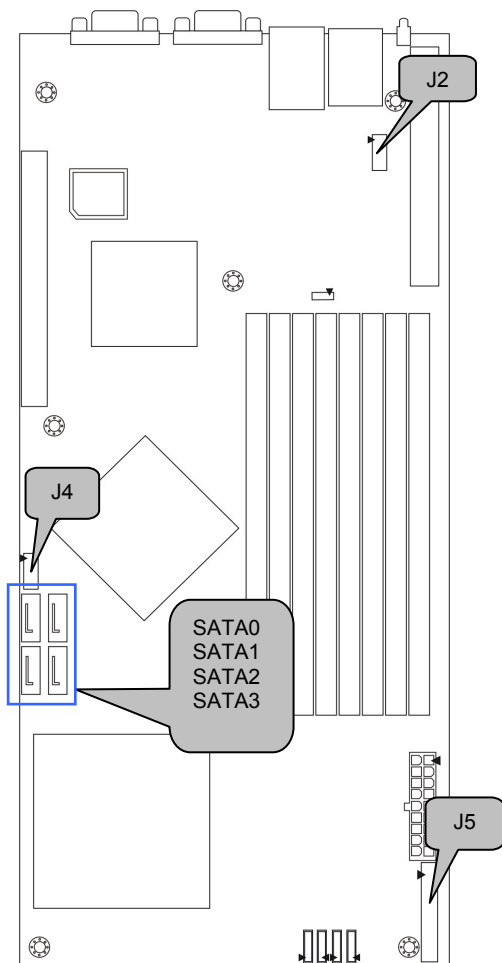


The diagram is representative of the latest board revision available at the time of publishing. The board you receive may not look exactly like the above diagram.

Jumper/Connector	Function
J2 (USB2)	USB Header
J3	IPMI Connector
J4 (USB1)	USB Front Panel Header
FAN1/FAN2/FAN3/FAN4	8-pin Fan Connector with Speed Control
TYFP3 (J5)	Front Panel Header
CCMOS1	Clear CMOS Jumper Pin 1-2 closed: Normal (Default) Pin 2-3 closed: Clear
SATA0/SATA1/SATA2/SATA3	Serial ATA RAID Connector

Jumper Legend

	OPEN - Jumper OFF, without jumper cover
	CLOSED – Jumper ON, with jumper cover



J5: TYFP3 Connector Front Panel Header

Diagram of the J5 TYFP3 Connector Front Panel Header. The header consists of two columns of 14 pins each. The pins are numbered 1 through 28. Pins 1 and 2 are at the top, and pins 27 and 28 are at the bottom. The pins are arranged in a 2x14 grid.

Use this header to connect some control or signal wires from motherboard to chassis, such as HDD LED, power LED, power button, and reset button.

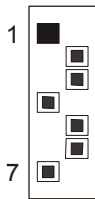
Pin	Signal	Pin	Signal
1	HD_LED+	2	HD_LED-
3	RESET+	4	RESET-
5	PWR_LED+	6	PWR_LED-
7	WLED+	8	WLED-
9	SMBDAT	10	SMBCLK
11	EXT_INT	12	+5V
13	5VSB	14	INTRUDER_N
15	PWR_SW+	16	PWR_SW-
17	LAN1_LED+	18	LAN1_LED-
19	LAN2_LED+	20	LAN2_LED-
21	LAN3_LED+	22	LAN3_LED-
23	ID_LED+	24	ID_LED-
25	ID_SW+	26	ID_SW-
27	Key	28	RSV

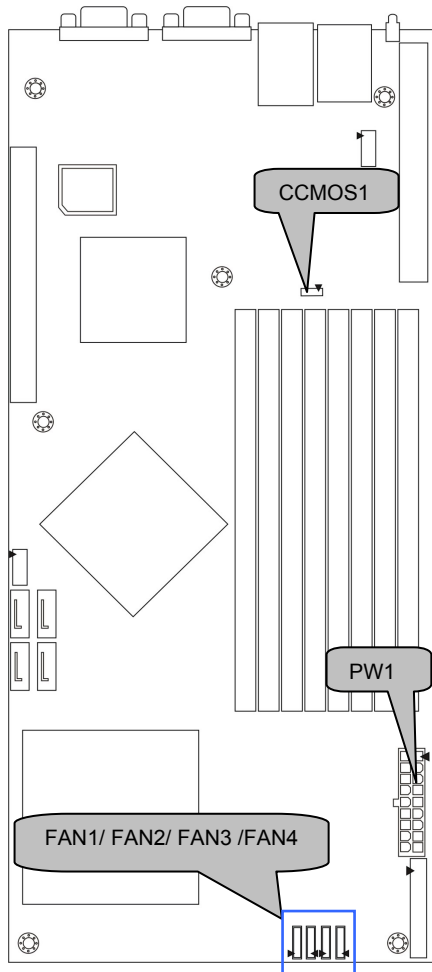
J4: USB Front Panel Header (USB1) / J2: USB Header (USB2)

Each USB header supports 2 additional USB ports. Use these headers to connect the PCI USB bracket or internal USB header cable to the front or rear I/O.

Pin	Signal	Pin	Signal
1	+5V	2	+5V
3	USB_P0_N	4	USB_P1_N
5	USB_P0_P	6	USB_P1_P
7	GND	8	GND
9	Key	10	RSV

SATA0/1/2/3: Serial ATA RAID Connector

	Connects to the Serial ATA ready drives via the Serial ATA cable. <table><thead><tr><th>Pin</th><th>Signal</th></tr></thead><tbody><tr><td>1</td><td>GND</td></tr><tr><td>2</td><td>TX+</td></tr><tr><td>3</td><td>TX-</td></tr><tr><td>4</td><td>GND</td></tr><tr><td>5</td><td>RX-</td></tr><tr><td>6</td><td>RX+</td></tr><tr><td>7</td><td>GND</td></tr></tbody></table>	Pin	Signal	1	GND	2	TX+	3	TX-	4	GND	5	RX-	6	RX+	7	GND
Pin	Signal																
1	GND																
2	TX+																
3	TX-																
4	GND																
5	RX-																
6	RX+																
7	GND																



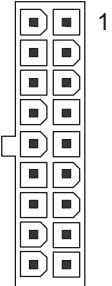
FAN1/ FAN2/ FAN3/ FAN4: 8-pin Fan Connector

	Use this header to connect the cooling fan to your motherboard to keep the system at optimum performance levels. <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th>Pin</th><th>Signal</th></tr> </thead> <tbody> <tr><td>1</td><td>FAN_PWM1</td></tr> <tr><td>2</td><td>+12V</td></tr> <tr><td>3</td><td>FAN_TACH1</td></tr> <tr><td>4</td><td>GND</td></tr> <tr><td>5</td><td>GND</td></tr> <tr><td>6</td><td>FAN_TACH2</td></tr> <tr><td>7</td><td>+12V</td></tr> <tr><td>8</td><td>FAN_PWM2</td></tr> </tbody> </table>	Pin	Signal	1	FAN_PWM1	2	+12V	3	FAN_TACH1	4	GND	5	GND	6	FAN_TACH2	7	+12V	8	FAN_PWM2
Pin	Signal																		
1	FAN_PWM1																		
2	+12V																		
3	FAN_TACH1																		
4	GND																		
5	GND																		
6	FAN_TACH2																		
7	+12V																		
8	FAN_PWM2																		

CCMOS1: Clear CMOS Jumper

3 1  Normal (Default)	Use this jumper when you forgot your system/setup password or need to clear system BIOS setting. How to clear the CMOS data - Power off system and disconnect power supply from AC source - Use jumper cap to close Pin_2 and 3 for several seconds to Clear CMOS - Replace jumper cap to close Pin_1 and 2 Reconnect power supply to AC source - Power on system
3 1  Clear	

PW1: 18-pin 12V/5V Power Connector

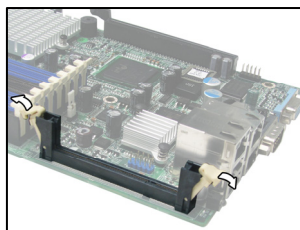
	<table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th>Pin</th><th>Signal</th><th>Pin</th><th>Signal</th></tr> </thead> <tbody> <tr><td>1</td><td>+3.3V</td><td>10</td><td>+3.3V</td></tr> <tr><td>2</td><td>COM</td><td>11</td><td>-12V</td></tr> <tr><td>3</td><td>COM</td><td>12</td><td>COM</td></tr> <tr><td>4</td><td>+5V</td><td>13</td><td>PS-ON#</td></tr> <tr><td>5</td><td>5VSB</td><td>14</td><td>+5V</td></tr> <tr><td>6</td><td>COM</td><td>15</td><td>PWR OK</td></tr> <tr><td>7</td><td>COM</td><td>16</td><td>COM</td></tr> <tr><td>8</td><td>+12V1</td><td>17</td><td>COM</td></tr> <tr><td>9</td><td>+12V2</td><td>18</td><td>+12V3</td></tr> </tbody> </table>	Pin	Signal	Pin	Signal	1	+3.3V	10	+3.3V	2	COM	11	-12V	3	COM	12	COM	4	+5V	13	PS-ON#	5	5VSB	14	+5V	6	COM	15	PWR OK	7	COM	16	COM	8	+12V1	17	COM	9	+12V2	18	+12V3
Pin	Signal	Pin	Signal																																						
1	+3.3V	10	+3.3V																																						
2	COM	11	-12V																																						
3	COM	12	COM																																						
4	+5V	13	PS-ON#																																						
5	5VSB	14	+5V																																						
6	COM	15	PWR OK																																						
7	COM	16	COM																																						
8	+12V1	17	COM																																						
9	+12V2	18	+12V3																																						

4.4 Installing Optional SO-DIMM modules

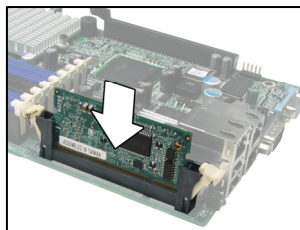
Your S537M motherboard is equipped with an optional proprietary SO-DIMM connector. The 200-pin vertical SO-DIMM connector can be used for **TYAN M3296** expansion card to provide such features as additional TYAN SMDC module support. For details of available expansions cards, visit the TYAN website at <http://www.tyan.com>.

To install a SO-DIMM expansion card:

1. Open the spring levers as shown.

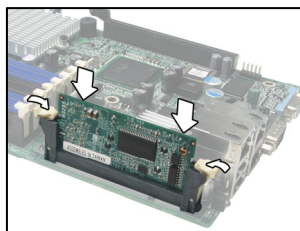


2. Insert the SO-DIMM card as shown, making sure that the card is the right way up. The card will fit in only one way and the screw holes in the card should line up exactly with the mounting posts on the motherboard.

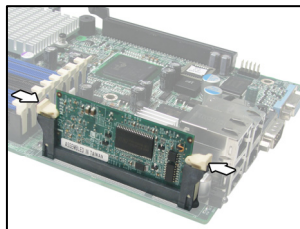


3. Push the SO-DIMM card down into place and make sure the spring levers click into place as shown.

NOTE: The SO-DIMM expansion cards will fit in the slot only one way. Make sure that you align the slot in the card with the key in the card slot.



4. Removal of a SO-DIMM card is a reversal of the installation procedure. Push out the spring levers as shown and pull the card out of the socket.



NOTE

Chapter 5: BIOS Setup

5.1 About the BIOS

The BIOS is the basic input/output system, the firmware on the motherboard that enables your hardware to interface with your software. The BIOS determines what a computer can do without accessing programs from a disk. The BIOS contains all the code required to control the keyboard, display screen, disk drives, serial communications, and a number of miscellaneous functions. This chapter describes the various BIOS settings that can be used to configure your system.

The BIOS section of this manual is subject to change without notice and is provided for reference purposes only. The settings and configurations of the BIOS are current at the time of print and are subject to change, and therefore may not match exactly what is displayed on screen.

This section describes the BIOS setup program. The setup program lets you modify basic configuration settings. The settings are then stored in a dedicated, battery-backed memory (called NVRAM) that retains the information even when the power is turned off.

To start the BIOS setup utility:

1. Turn on or reboot your system.
2. Press <Del> during POST (<F4> on remote console) to start the BIOS setup utility.

5.2 BIOS Menu Bar

The menu bar at the top of the windows lists these selections:

Main	To configure basic system setups
Advanced	To configure the advanced chipset features
PCI/PnP	To configure legacy Plug & Play or PCI settings
Boot	To configure system boot order
Security	To configure user and supervisor passwords
Chipset	To configure chipset management features
Exit	To exit setup utility

5.3 Setup Basics

The table below shows how to navigate in the setup program using the keyboard.

Key	Function
<F1>	General help window
<ESC>	Exit current menu
← → arrow keys	Select a different menu
↑ or ↓ arrow keys	Move cursor up/down
<Tab> or <Shift-Tab>	Cycle cursor up/down
<Home> or <End>	Move cursor to top/bottom of the window
<PgUp> or <PgDn>	Move cursor to next/previous page
<->	Select the previous value/setting of the field
<+>	Select the next value/setting of the field
<F8>	Load Fail Safe default configuration values of the menu
<F9>	Load the Optimal default configuration values of the menu
<F10>	Save and exit
<Enter>	Execute command or select submenu

5.4 Getting Help

Press **[F1]** to display a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window, press **[ESC]**.

5.5 In Case of Problems

If you have trouble booting your computer after making and saving the changes with the BIOS setup program, you can restart the computer by holding the power button down until the computer shuts off (usually within 4 seconds); resetting by pressing CTRL-ALT-DEL; or clearing the CMOS.

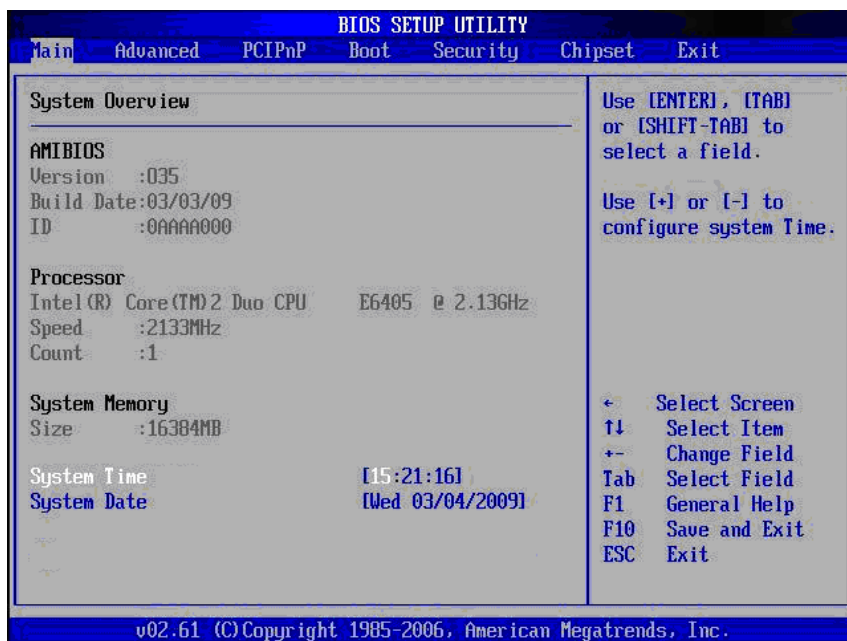
The best advice is to only alter settings that you thoroughly understand. In particular, do not change settings in the Chipset section unless you are absolutely sure of what you are doing. The Chipset defaults have been carefully chosen either by TYAN or your system manufacturer for best performance and reliability. Even a seemingly small change to the Chipset setup options may cause the system to become unstable or unusable.

NOTE: The following pages provide the details of BIOS menu. Please be noticed that the BIOS menu are continually changing due to the BIOS updating. The BIOS menu provided are the most updated when this manual is written. Please visit Tyan's website at <http://www.tyan.com> for the information of BIOS updating.

5.6 BIOS Main Menu

The Main BIOS Menu is the first screen that you can navigate. The Main BIOS setup menu screen has two main frames. The left frame displays all the options that can be configured. "Grayed-out" options cannot be configured, options in blue can be changed.

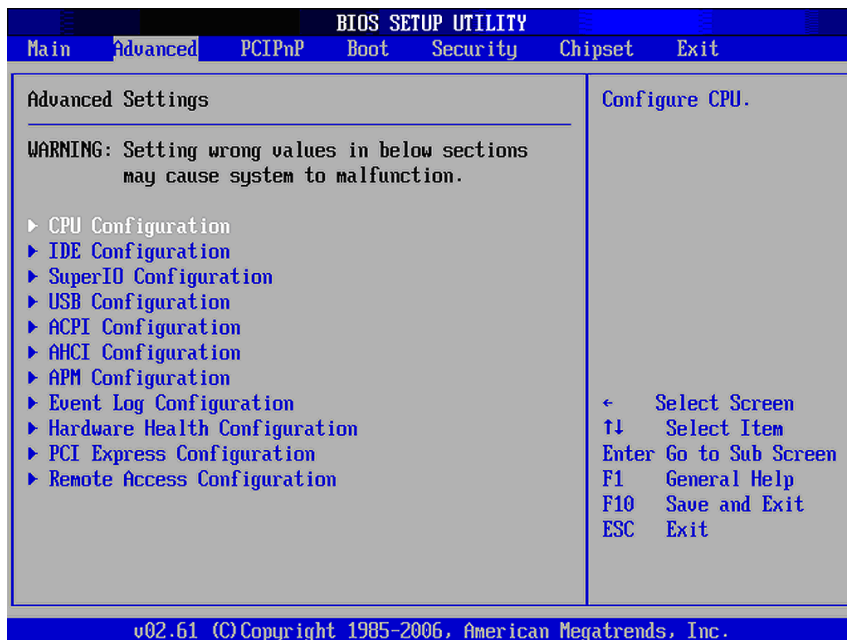
The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is highlighted in white. Often, a text message will accompany it.



Feature	Option	Description
Main		
System Time	HH : MM : SS	Set the system time
System Date	MM : DD : YYYY	Set the system date

5.7 Advanced Menu

You can select any of the items in the left frame of the screen, such as Super I/O Configuration, to go to the sub menu for that item. You can display an Advanced BIOS Setup option by highlighting it using the <Arrow> keys. All Advanced BIOS Setup options are described in this section. The Advanced BIOS Setup screen is shown below. The sub menus are described on the following pages.

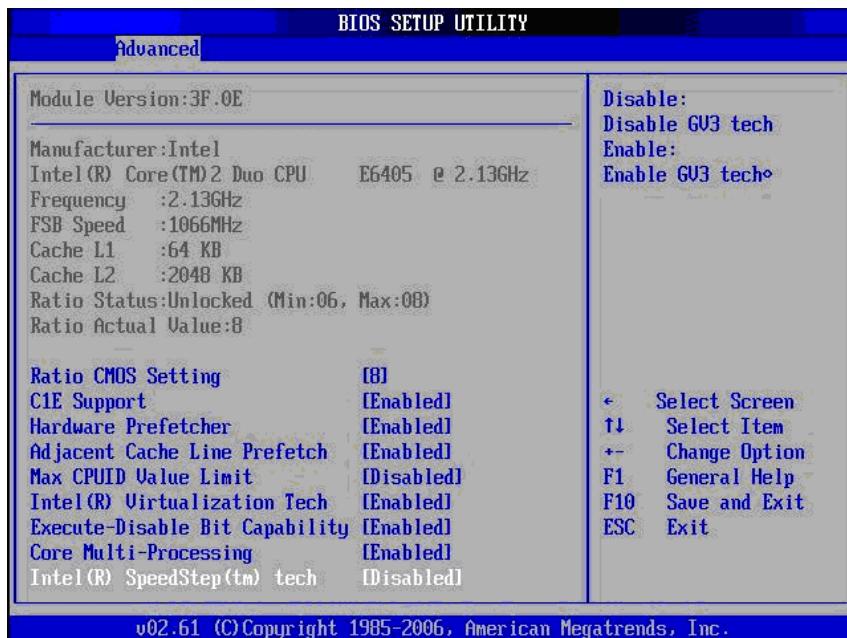


Feature	Option	Description
Advanced Settings		
CPU Configuration	Menu Item	Options for CPU
IDE Configuration	Menu Item	Configure the IDE device(s)
Super IO Configuration	Menu Item	Configures Super IO Chipset Win627DHG
USB Configuration	Menu Item	Configure the USB support
ACPI Configuration	Menu Item	Section for Advanced ACPI Configuration
AHCI Configuration	Menu Item	Section for Advanced AHCI Configuration

Feature	Option	Description
Advanced Settings		
APM Configuration	Menu Item	Section for APM configuration
Event Log Configuration	Menu Item	Mark as read, Clear or View Event Log statistics
Hardware Health Configuration	Menu Item	Configure/monitor the Hardware Health
PCI Express Configuration	Menu Item	Select options for PCI Express Devices.
Remote Access Configuration	Menu Item	Configure Remote Access

5.7.1 CPU Configuration

You can use this screen to view CPU Configuration Menu. Use the up and down arrow (↑/↓) keys to select an item. Use the Plus and Minus (+/-) keys to change the value of the selected option. The settings are described on the following pages.



Feature	Option	Description
CPU Configuration		
Manufacturer	Read only	Displays information about CPU
Intel® CPU		
Frequency		
FSB Speed		
Cache L1		
Cache L2		
Ratio Status		
Ratio Actual Value		
Ratio CMOS Setting	According to CPU ratio	It allows users to select the ratio of CPU frequency to front side bus. The default is auto-detected by BIOS. Use [+] or [-] to adjust values.

C1E Support	Enabled	Enable or disable the C1 Enhanced mode
	Disabled	
Hardware Prefetcher	Enabled	When enabled, the processor's hardware prefetcher will be enabled and allowed to automatically prefetch data and code for the processor. When disabled, the processor's hardware prefetcher will be disabled.
	Disabled	
Adjacent Cache Line Prefetch	Enabled	When enabled, the processor will retrieve the currently requested cache line, as well as the subsequent cache line. When disabled, the processor will only retrieve the currently requested cache line.
	Disabled	
Intel® Virtualization Technology	Enabled	Intel Virtualization Technology is a set of platform features that support virtualization of platform hardware and multiple software environments. When enabled, it offers data center managers the ability to consolidate multiple workloads on one physical server system.
	Disabled	
Execute-Disable Bit Capability	Enabled	Intel's Execute Disable Bit functionality can help prevent certain classes of malicious buffer overflow attacks when combined with a supporting operating system. Execute Disable Bit allows the processor to classify areas in memory by where application code can execute and where it cannot. When a malicious worm attempts to insert code in the buffer, the processor disables code execution, preventing damage and worm propagation.
	Disabled	
Core Multi-Processing	Enabled	When disabled, it disables one execution core.
	Disabled	
Intel® Speedstep™ Tech	Enabled	This feature allows the system to dynamically adjust processor voltage and core frequency, which can result in decreased average power consumption and decreased average heat production.
	Disabled	

5.7.2 IDE Configuration Sub-Menu

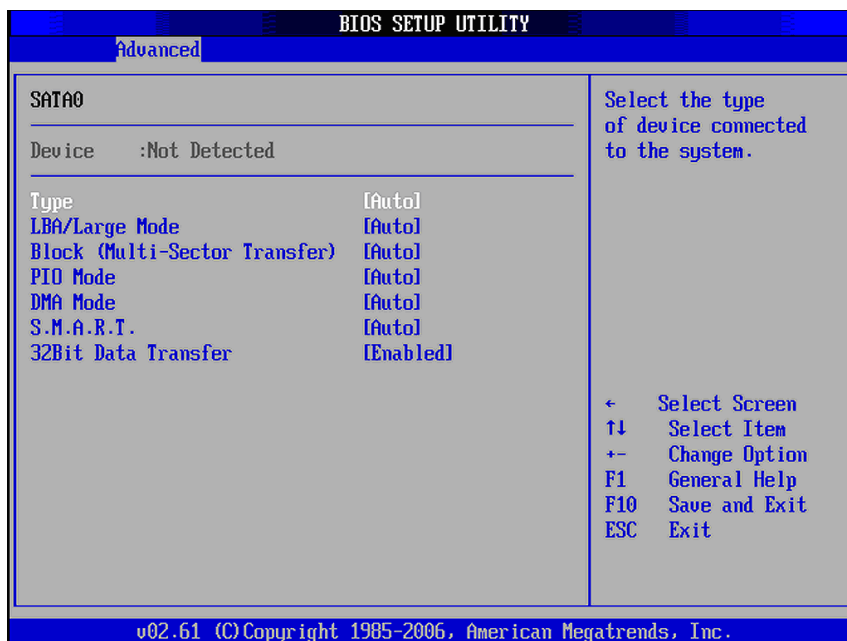
You can use this screen to select options for the IDE Configuration Settings. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option.

BIOS SETUP UTILITY		
Advanced		
IDE Configuration		Options
Configure SATA as	[RAID]	IDE RAID AHCI
▶ SATA0 (PM)	: [Not Detected]	
▶ SATA1 (SM)	: [Not Detected]	
▶ SATA2 (PS)	: [Not Detected]	
▶ SATA3 (SS)	: [Not Detected]	
Hot Plug	[Disabled]	
Hard Disk Write Protect	[Disabled]	
IDE Detect Time Out (Sec)	[35]	
		+ Select Screen ↑↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.		

Feature	Option	Description
IDE Configuration		
SATA Configuration	Enhanced	This defines the operation mode of SATA channel. NOTE: This item can only be displayed when Configure SATA as is set to [IDE].
	Disabled	
	Compatible	
Configure SATA as	IDE	Select legacy IDE, RAID or AHCI as the SATA interface.
	RAID	
	AHCI	
Hot Plug	Disabled	Available if either RAID or AHCI is enabled. Provides Hot Plugging capability.
	Enabled	
Hard Disk Write Protect	Disabled	Enable/Disable device write protection. This will be effective only if device is accessed through BIOS.
	Enabled	

IDE Detect Time Out (Sec)	0~35 (at 5 interval)	Select the time out value for detecting ATA/ATAPI device(s).
------------------------------	-------------------------	---

5.7.2.1 SATA0 ~ SATA3 Sub-Menu



Feature	Option	Description
SATA0		
Type	Auto	Selects the type of device connected to the system.
	Not Installed	
	CD/DVD	
	ARMD	
LBA/Large Mode	Auto	Auto: Enabled LBA Mode if the device supports it and the device is not already formatted with LBA Mode disabled.
	Disabled	Disabled: Disabled LBA Mode.
Block (Multi-Sector Transfer)	Auto	Disabled: The Data transfer from and to the device occurs one sector at a time.
	Disabled	Auto: The Data transfer from and to the device occurs multiple sectors at a time if the device supports it.

PIO Mode	Auto	Selects the PIO Mode. Select Auto to enhance hard disk performance by optimizing the hard disk timing.
	0~4 (at 1 interval)	
DMA Mode	Auto	Selects DMA Mode. Auto: Auto detected.
S.M.A.R.T.	Auto	S.M.A.R.T (Self-Monitoring Analysis and Reporting Technology) is a utility that monitors your disk status to predict hard disk failure.
	Disabled	
	Enabled	
32Bit Data Transfer	Enabled	Enables 32-bit to maximize the IDE hard disk data transfer rate.
	Disabled	

5.7.3 Super IO Configuration Sub-Menu

You can use this screen to select options for the Super I/O settings. Use the up and down arrow (↑/↓) keys to select an item. Use the Plus and Minus (+/-) keys to change the value of the selected option

BIOS SETUP UTILITY	
Advanced	
Configure Win627DHG Super IO Chipset	
Serial Port1 Address	[3F8/IRQ4]
Watchdog Mode	[Disabled]
POST : BIOS POST Watchdog , timer counting start at PowerOn , Stop at OS boot . OS : OS boot Watchdog , Start at OS boot . PowerOn : Start at PowerOn .	
+ Select Screen ↑↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit	
v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.	

Feature	Option	Description
Configure Win627DHG Super IO Chipset		
Serial Port1 Address	3F8 IRQ4	Allow BIOS to select Serial Port1 Base Addresses.
	3E8 IRQ4	
	2E8 IRQ3	
	2F8 IRQ3	
	Disabled	
Watchdog Mode	Disabled	POST: Watchdog timer counting, start at Power on, stop at OS Boot OS: Start at OS Boot Power on: Start at power on
	POST	
	OS	
	Power ON	

5.7.4 USB Configuration Sub-Menu

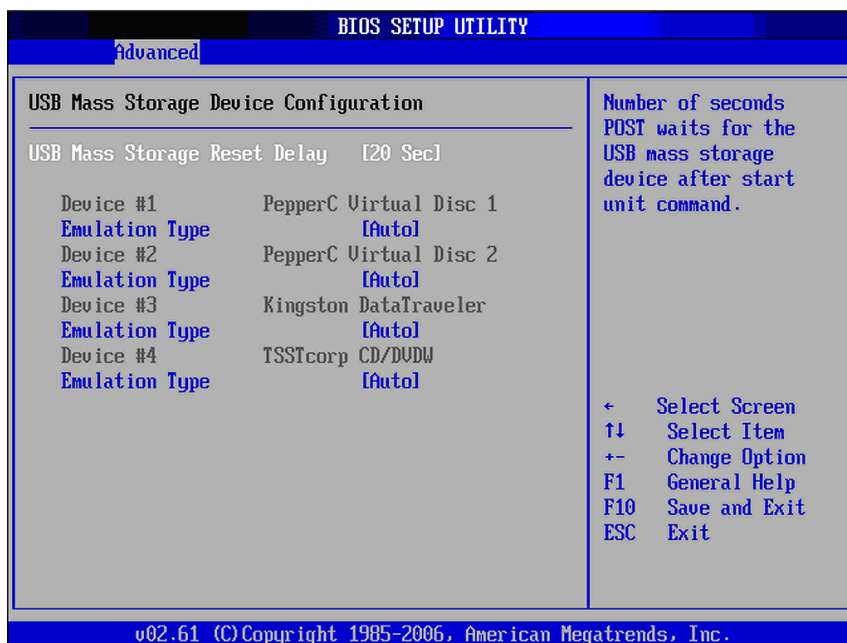
You can use this screen to view the USB Configuration Menu. Use the up and down arrow (↑/↓) keys to select an item. Use the Plus and Minus (+/-) keys to change the value of the selected option. The settings are described on the following pages.

BIOS SETUP UTILITY	
Advanced	
USB Configuration Module Version - 2.24.3-13.4 USB Devices Enabled : 2 Keyboards, 2 Mice, 1 Hub, 4 Drives Legacy USB Support [Enabled] Port 64/60 Emulation [Disabled] USB 2.0 Controller Mode [HiSpeed] BIOS EHCI Hand-Off [Enabled] Hotplug USB FDD Support [Auto] ▶ USB Mass Storage Device Configuration	Enables support for legacy USB. AUTO option disables legacy support if no USB devices are connected. + Select Screen ↑↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.	

Feature	Option	Description
USB Configuration		
Legacy USB Support	Disabled	Enables support for legacy USB. AUTO option disables legacy support if no USB devices are connected.
	Auto	
	Enabled	
Port 64/60 Emulation	Enabled	This feature allows you to enable emulation of I/O ports 64h and 60h so that there is full PS/2 legacy support for USB keyboards and mice.
	Disabled	
USB 2.0 Controller Mode	Hi Speed	Configure the USB 2.0 controller in Hi Speed (480 Mbps) or Full Speed (12Mbps).
	Full Speed	

BIOS EHCI Hand-Off	Enabled	This is a work around for OSeS without EHCI hand-off support. The EHCI ownership change should claim by EHCI driver.
	Disabled	
Hotplug USB FDD Support	Enabled	Enable or disable hotplug USB floppy support
	Disabled	
	Auto	

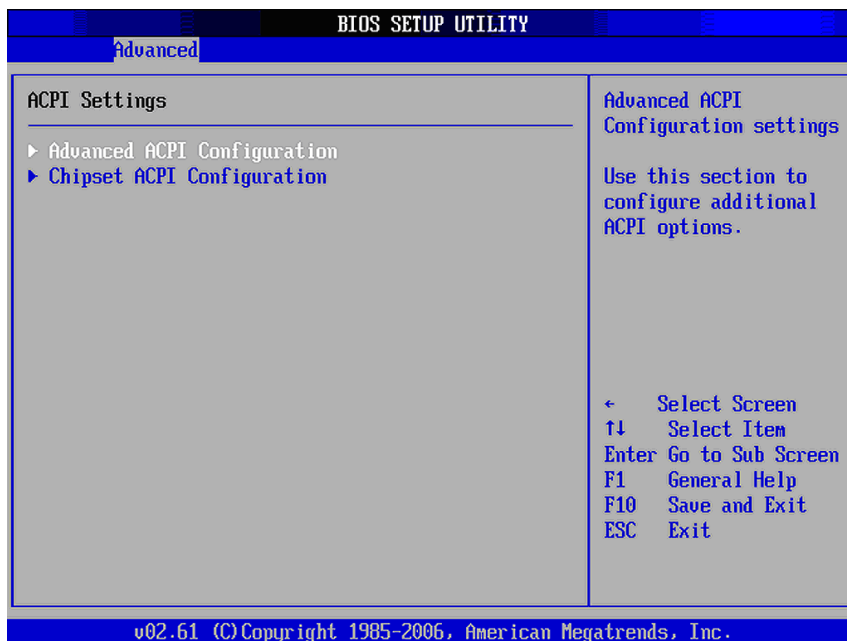
5.7.4.1 USB Mass Storage Device Configuration Sub-Menu



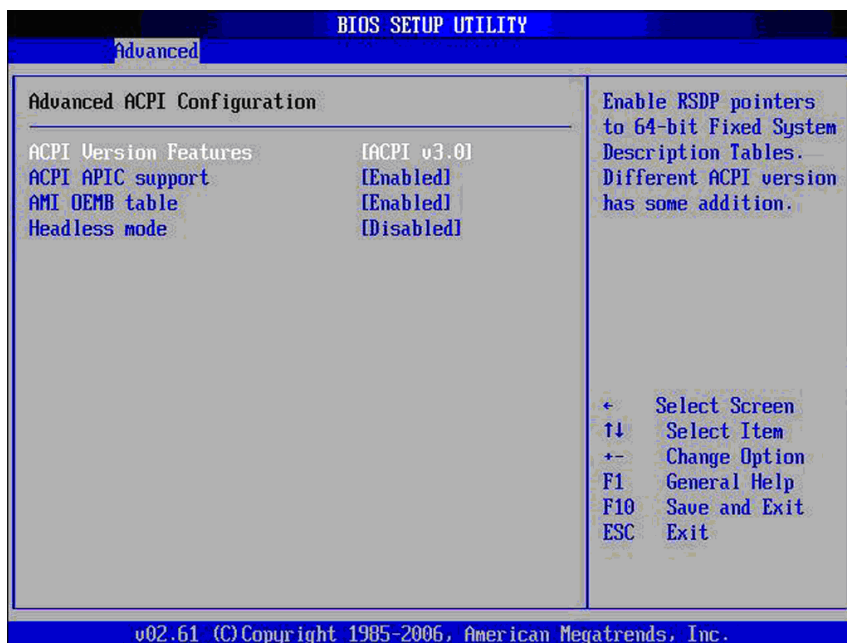
Feature	Option	Description
USB Mass Storage Device Configuration		
USB Mass Storage Reset Delay	10 Sec	It enables you to set the number of seconds the POST waits for the USB mass storage device after the start unit command is sent.
	20 Sec	
	30 Sec	
	40 Sec	
Device #1	Read only	
Emulation Type	Auto	If Auto, USB devices less than 530 MB will be emulated as Floppy and remaining as hard drive. Forced FDD option can be used to force a HDD formatted drive to boot as FDD (Ex. ZIP drive).
	Floppy	
	Forced	
	FDD	
	Hard Disk	
	CDROM	

5.7.5 ACPI Configuration Sub-Menu

Use this screen to select options for ACPI. Use the up and down arrow (↑/↓) keys to select an item. Use the Plus and Minus (+/-) keys to change the value of the selected option. A description of the selected item appears on the right side of the screen. The settings are described on this page. The screen is shown below.

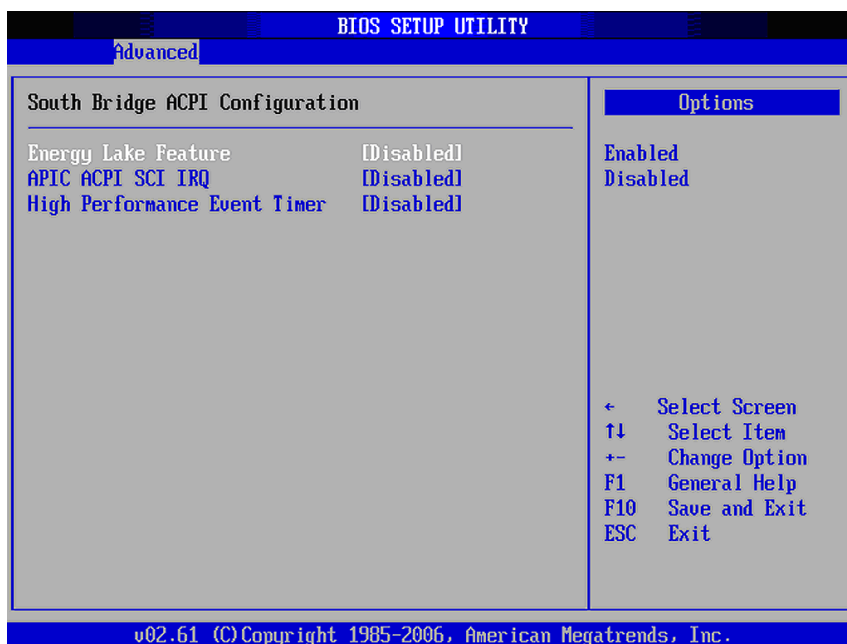


5.7.5.1 Advanced ACPI Configuration Sub-Menu



Feature	Option	Description
Advanced ACPI Configuration		
ACPI Version Features	ACPI v3.0	Set this value to allow or prevent the system to be complaint with the ACPI 2.0 specification.
	ACPI v2.0	
	ACPI v1.0	
ACPI APIC Support	Enabled	This option allows you to define whether or not to enable APIC features.
	Disabled	
AMI OEMB table	Enabled	Set this value to allow the ACPI BIOS to add a pointer to an OEMB table in the Root System Description Table (RSDT) table. Note: OEMB table is used to pass POST data to the AMI code during ACPI O/S operations.
	Disabled	
Headless mode	Enabled	Enable or disable Headless operation mode through ACPI.
	Disabled	

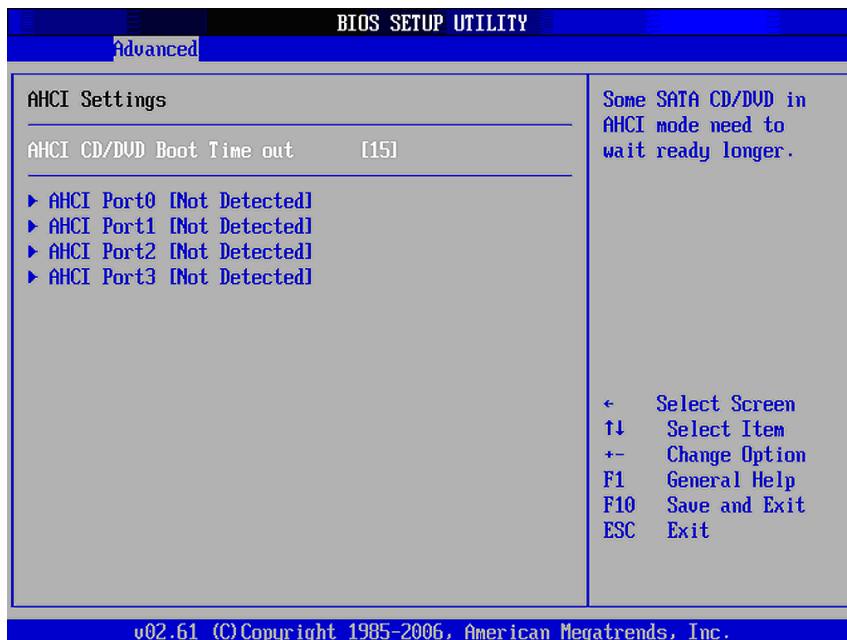
5.7.5.2 Chipset ACPI Configuration Sub-Menu



Feature	Option	Description
South Bridge ACPI Configuration		
Energy Lake Feature	Disabled	Allow you to configure Intel's Energy Lake power management technology. If you are running a Media Center you can install the Intel VIIV software to get the correct driver; otherwise disable the Energy Lake feature in BIOS (it relates purely to Intel's Quick Resume feature, which is generally useless).
	Enabled	
ACPI APIC SCI IRQ	Disabled	Enable / Disable ACPI APIC SCI IRQ
	Enabled	
High Performance Event Timer	Disabled	Enable/Disable High Performance Event Timer
	Enabled	

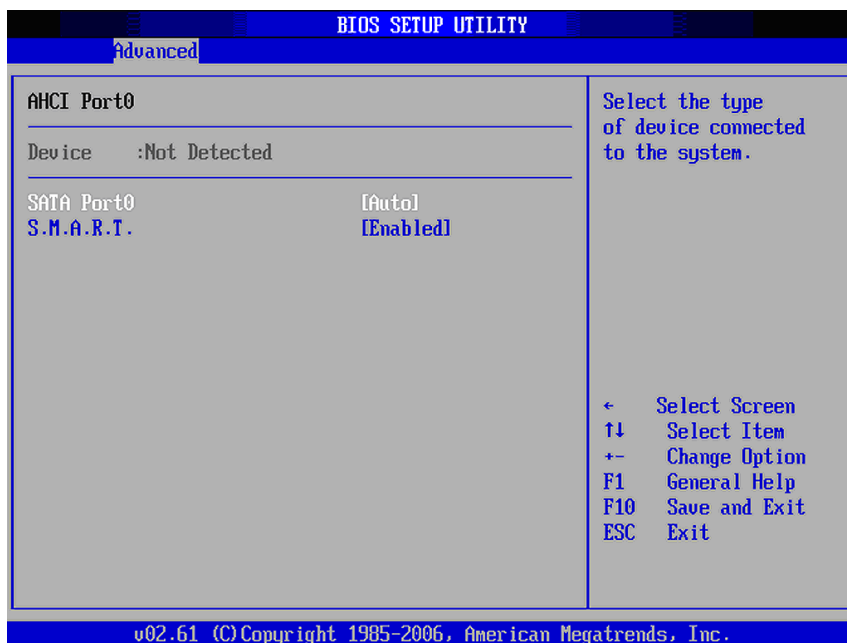
5.7.6 AHCI Configuration Sub-Menu

You can use this screen to view the AHCI Configuration Menu. Use the up and down arrow (↑/↓) keys to select an item. Use the Plus and Minus (+/-) keys to change the value of the selected option. The settings are described on the following pages.



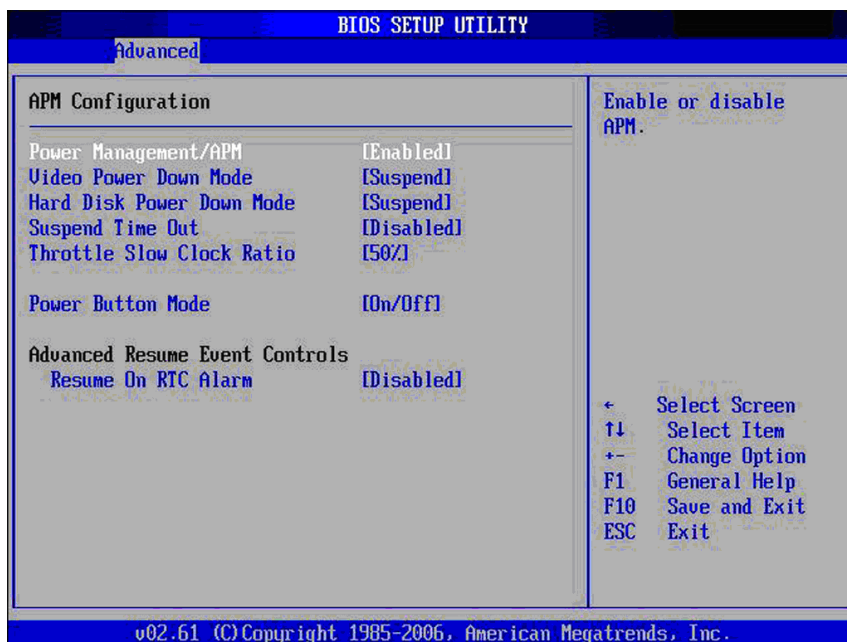
Feature	Option	Description
AHCI Configuration		
AHCI CD/DVD Boot Time Out	0	Some SATA CD/DVD in AHCI mode need to wait ready longer.
	5	
	10	
	15	
	20	
	25	
	30	
	35	

5.7.6.1 AHCI Port0/Port1/Port2/Port3/Port4/Port5 Sub-Menu



Feature	Option	Description
AHCI Port0 Configuration		
SATA Port0	Auto	Select the type of device connected to the system.
	Not Installed	
S.M.A.R.T.	Enabled	S.M.A.R.T (Self-Monitoring Analysis and Reporting Technology) is a utility that monitors your disk status to predict hard disk failure.
	Disabled	

5.7.7 APM Configuration

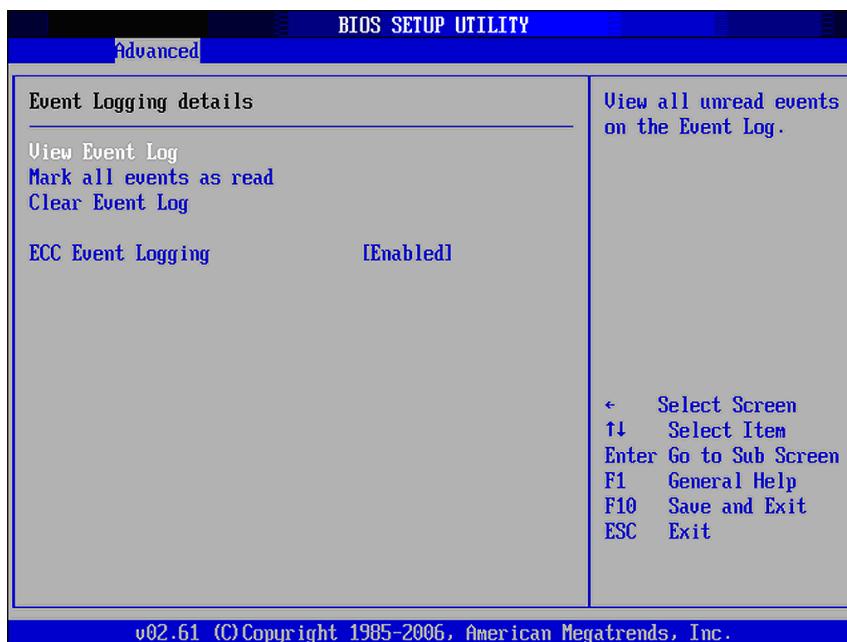


Feature	Option	Description
APM Configuration		
Power Management/APM	Enabled	Enable/Disable APM
	Disabled	
Video Power Down Mode	Suspend	Power Down Video in Suspend or Standby Mode.
	Disabled	
Hard Disk Power Down Mode	Suspend	Power Down Hard Disk in Suspend or Standby Mode.
	Disabled	
Suspend Time Out	Disabled	Go into Suspend in the specified Time.
	1 Min	
	2 Min	
	4 Min	
	8 Min	
	10 Min	
	20 Min	
	30 Min	
	40 Min	
	50 Min	
	60 Min	

Throttle Slow Clock Ratio	87.5%	Select the duty cycle in throttle mode
	75.0%	
	62.5%	
	50%	
	37.5%	
	25%	
	12.5%	
Power Button Mode	On/Off	Go into On/Off, or Suspend when Power Button is pressed.
	Suspend	
Resume On RTC Alarm	Disabled	Enable/Disable RTC to generate a wake event
	Enabled	

5.7.8 Event Log Configuration Sub-Menu

You can use this screen to view the Event Log Control Menu. This logs system events (such as CMOS clear) and writes the log into NVRAM. Use the up and down arrow (↑/↓) keys to select an item. Use the Plus and Minus (+/-) keys to change the value of the selected option. The settings are described on the following pages.



Feature	Option	Description
Event Logging details		
View Event Log	—	Views all unread events on the Event Log.
Mark All Events as Read	OK	Marks all unread events as read.
	Cancel	
Clear Event Log	OK	Erases all of events.
	Cancel	
ECC Event Logging	Enabled	Enable or disable ECC Event Logging
	Disabled	

5.7.9 Hardware Health Configuration Sub-Menu

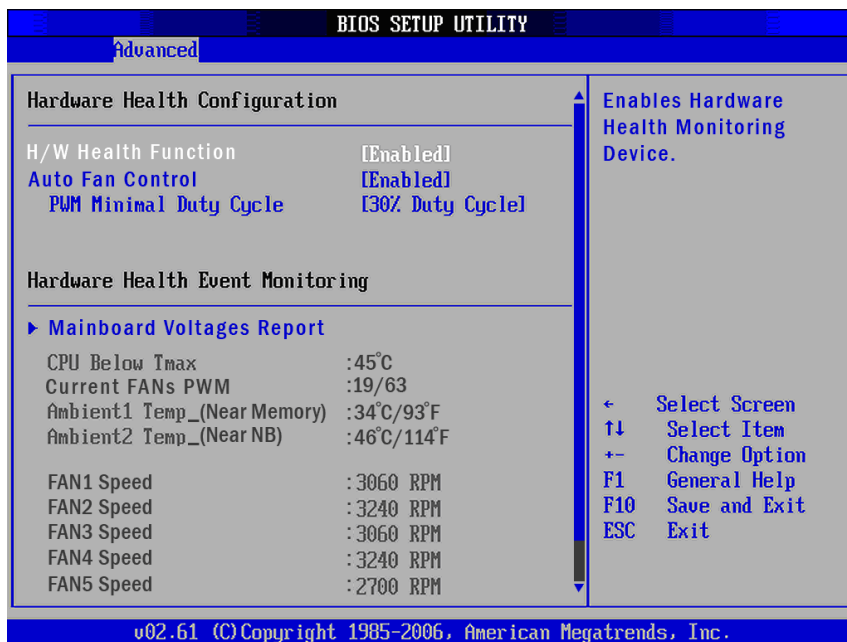
You can use this screen to view the Hardware Health Configuration Settings. Use the up and down arrow (↑/↓) keys to select an item. Use the Plus and Minus (+/-) keys to change the value of the selected option. The settings are described on the following pages.

Hardware Health Configuration Submenu (M296 present)

BIOS SETUP UTILITY	
Advanced	
Hardware Health Configuration	Duty Cycle control range: 50%-100%, 40%-100%, 30%-100%
Auto Fan Control [Enabled]	
PWM Minimal Duty Cycle [30% Duty Cycle]	
Hardware Health Event Monitoring	
▶ Sensor Data Register Monitoring	
	← Select Screen ↑↓ Select Item +/- Change Option F1 General Help F10 Save and Exit ESC Exit
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Feature	Option	Description
Hardware Health Configuration		
H/W Health Function	Enabled	Enables Hardware Health Monitoring Device.
	Disabled	
Auto FAN Control	Disabled	FAN power duty cycle is auto dynamic programmed in selected temperature range. Disabled: Fan Power On. Enabled: Fan Power Duty Cycle=30%(40°C)-100%(60°C), see max (CPU0, CPU1)
	Enabled	
	30%	

Hardware Health Configuration Submenu (M296 absent)



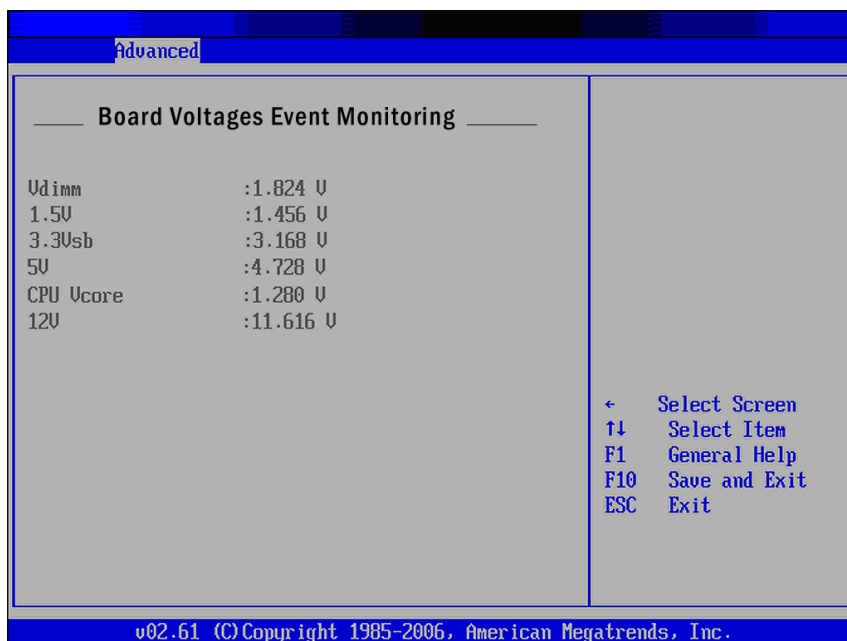
Feature	Option	Description
Hardware Health Configuration		
H/W Health Function	Enabled	Enables Hardware Health Monitoring Device.
	Disabled	
Auto FAN Control	Disabled	FAN power duty cycle is auto dynamic programmed in selected temperature range. Disabled: Fan Power On. Enabled: Fan Power Duty Cycle=30%(40°C)-100%(60°C), see max (CPU0, CPU1)
	Enabled	
PWM Minimal Duty Cycle	30%	This item allows you to set minimum PWM Duty Cycle. Note: This item is hidden and will appear when Auto FAN Power Control is set to [Enabled].
	40%	
	50%	

5.7.9.1 Sensor Data Register Monitoring Sub-Menu (M3296 present)

Advanced	
CPU Vcore	:1.120 V
5V	:4.896 V
1.5V	:1.456 V
Vdimm	:1.808 V
12V	:11.808 V
3.3Vsb	:3.200 V
CPU Below Tmax	:31°C
Ambient1 Temp	:39°C
Ambient2 Temp	:69°C
FAN1	:6570 RPM
FAN2	:7290 RPM
FAN3	:7020 RPM
FAN4	:7560 RPM
FAN5	:6480 RPM
FAN6	:6480 RPM
FAN7	:6570 RPM
FAN8	:7020 RPM
← Select Screen ↑↓ Select Item F1 General Help F10 Save and Exit ESC Exit	
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Read only. It cannot be modified in user mode.

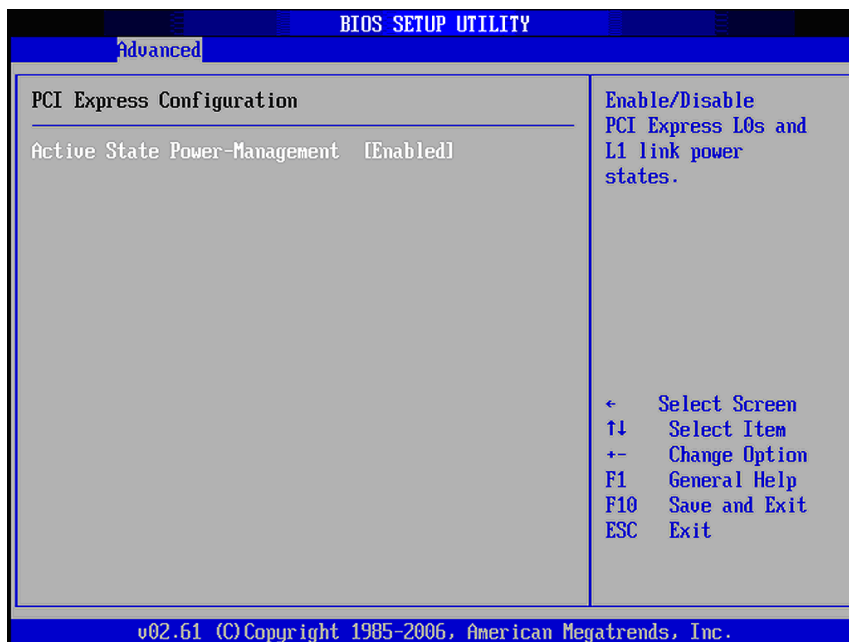
5.7.9.2 Mainboard Voltages Report Sub-Menu (M3296 absent)



Read only. It cannot be modified in user mode.

5.7.10 PCI Express Configuration Sub-Menu

You can use this screen to enable PCI Express support. Use the up and down arrow (↑/↓) keys to select an item. The settings are described on the following pages.



Feature	Option	Description
PCI Express Configuration		
Active State Power-Management	Enabled	Enabled/Disabled PCI Express L0s and L1 link power states.
	Disabled	

5.7.11 Remote Access Configuration Sub-Menu

You can use this screen to view the Remote Access Configuration Menu. This feature allows access to the Server remotely via serial port. Use the up and down arrow (↑/↓) keys to select an item. Use the Plus and Minus (+/-) keys to change the value of the selected option. The settings are described on the following pages.

BIOS SETUP UTILITY		
Advanced		
Configure Remote Access type and parameters		Select Remote Access type.
Remote Access	[Enabled]	
Serial Port Mode	[115200 8,n,1]	
Flow Control	[None]	
Redirection After BIOS POST	[Always]	
Terminal Type	[ANSI]	
VT-UTF8 Combo Key Support	[Enabled]	
Sredir Memory Display Delay	[No Delay]	
		← Select Screen ↑↓ Select Item +/- Change Option F1 General Help F10 Save and Exit ESC Exit
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Feature	Option	Description
Configure Remote Access type and parameters		
Remote Access	Enabled	Enables remote access to system through serial port.
	Disabled	
Serial Port Mode	115200 8,n,1	Select Serial Port settings.
	57600 8,n,1	
	38400 8,n,1	
	19200 8,n,1	
	9600 8,n,1	

Flow Control	None	Select Flow Control for console redirection.
	Hardware	
	Software	
Redirection After BIOS POST	Disabled	Disable: Turns off the redirection after POST Boot Loader: Redirection is active during POST and during Boot Loader. Always: Redirection is always active. <Some OSs may not work if set to Always>
	Boot Loader	
	Always	
Terminal Type	ANSI	Select the target terminal type.
	VT100	
	VT-UTF8	
VT-UTF8 Combo Key Support	Enabled	Enable VT-UTF8 Combination key Support for ANSI/VT100 terminals.
	Disabled	
Sredir Memory Display Delay	No Delay	Gives the delay in seconds to display memory information
	Delay 1 Sec	
	Delay 2 Sec	
	Delay 4 Sec	

5.8 PCI PnP Menu

You can use this screen to view PnP (Plug & Play) BIOS Configuration Menu. This menu allows the user to configure how the BIOS assigns resources & resolves conflicts. Use the up and down arrow (↑/↓) keys to select an item. Use the Plus and Minus (+/-) keys to change the value of the selected option. The settings are described on the following pages.

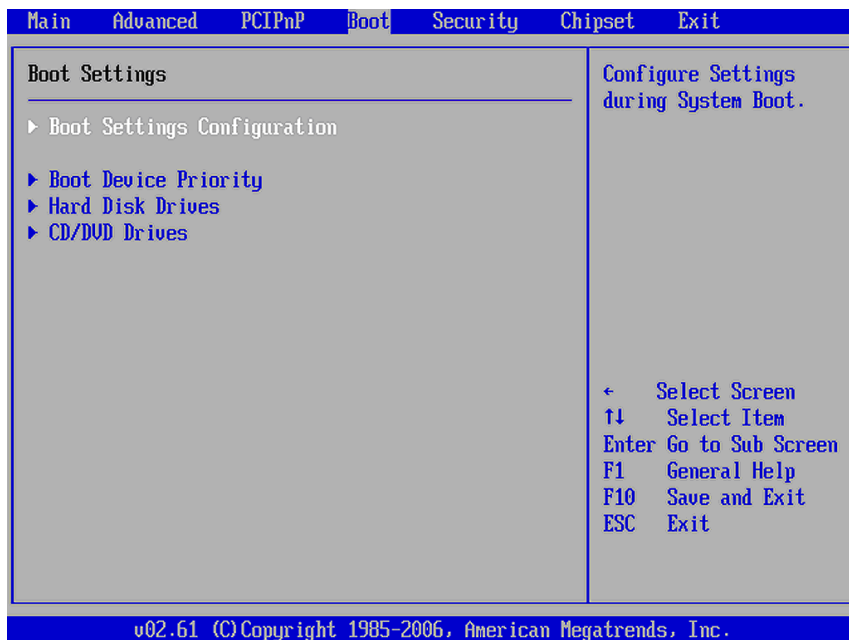
BIOS SETUP UTILITY						
Main	Advanced	PCIPnP	Boot	Security	Chipset	Exit
Advanced PCI/PnP Settings			Clear NVRAM during System Boot.			
WARNING: Setting wrong values in below sections may cause system to malfunction.						
Clear NVRAM	[No]					
Plug & Play O/S	[No]					
PCI Latency Timer	[64]					
Allocate IRQ to PCI VGA	[Yes]					
Palette Snooping	[Disabled]					
PCI IDE BusMaster	[Enabled]					
PCI Bus Scan Order	[Ascent]					
			← Select Screen ↑↓ Select Item +/- Change Option F1 General Help F10 Save and Exit ESC Exit			
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Feature	Option	Description
Advanced PCI/PnP Settings		
Clear NVRAM	No	Clears NVRAM during system Boot.
	Yes	
Plug & Play OS	Yes	No: lets the BIOS configure all the devices in the system. Yes: lets the operating system configure Plug and Play (PnP) devices not required for boot if your system has a Plug and Play operating system.
	No	

PCI Latency Timer	32	This setting controls how many PCI clocks each PCI device can hold the bus before another PCI device takes over. When set to higher values, every PCI device can conduct transactions for a longer time and thus improve the effective PCI bandwidth. Values in units of PCI clocks for PCI device latency timer register.
	64	
	96	
	128	
	160	
	192	
	224	
	248	
Allocate IRQ to PCI VGA	Yes	Yes: assigns IRQ to PCI VGA card if card requests IRQ.
	No	
Palette Snooping	Disabled	This is the default setting and should not be changed unless the VGA card manufacturer requires Palette Snooping to be Enabled. Enabled: informs the PCI devices that an ISA graphics device is installed in the system so the card will function correctly.
	Enabled	
PCI IDE BusMaster	Disabled	Enabled: BIOS uses PCI bus mastering for reading / writing to IDE drives.
	Enabled	
PCI Bus Scan Order	Ascent	Ascent: Scan PCI bus from bus 0 to maximum Descent: Scan PI bus from bus maximum to 0
	Descent	

5.9 Boot Menu

You can display Boot Setup option by highlighting it using the Arrow (↑/↓) keys and pressing Enter. The settings are described on the following pages.



5.9.1 Boot Settings Configuration Sub-Menu

Use this screen to select options for the Boot Settings Configuration. Use the up and down arrow (↑/↓) keys to select an item. Use the Plus and Minus (+/-) keys to change the value of the selected option.

Boot	
Boot Settings Configuration Quick Boot [Disabled] Quiet Boot [Enabled] AddOn ROM Display Mode [Force BIOS] Bootup Num-Lock [On] Wait For 'F1' If Error [Enabled] Hit 'DEL' Message Display [Enabled] Interrupt 19 Capture [Enabled] Endless Boot [Disabled]	
Allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system. + Select Screen ↑↓ Select Item + - Change Option F1 General Help F10 Save and Exit ESC Exit	
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Feature	Option	Description
Boot Settings Configuration		
Quick Boot	Enabled	This option allows user bypass BIOS self test during POST.
	Disabled	
Quiet Boot	Disabled	Disabled: displays normal POST messages.
	Enabled	Enabled: displays OEM log instead of POST messages.
Add On ROM Display Mode	Force BIOS	Allows user to force BIOS/Option ROM of add-on cards to be displayed during quiet boot.
	Keep Current	

Bootup Num-Lock	On	Selects Power-on state for Numlock.
	Off	
Wait for 'F1' If Error	Enabled	Waits for F1 key to be present if error occurs.
	Disabled	
Hit 'DEL' Message Display	Enabled	Displays "Press DEL to run Setup" in POST.
	Disabled	
Interrupt 19 Capture	Disabled	Enabled: allows option ROMs to trap interrupt 19.
	Enabled	
Endless Boot	Disabled	Enable/Disable endless loop boot from BBS table.
	Enabled	

5.9.2 Boot Device Priority Sub-menu

Use this screen to select options for the Boot Device Priority. Use the up and down arrow (↑/↓) keys to select an item. Use the Plus and Minus (+/-) keys to change the value of the selected option.

BIOS SETUP UTILITY	
Boot	
Boot Device Priority 1st Boot Device [USB:TSSTcorp CD/DVD] 2nd Boot Device [USB:Kingston DataI] 3rd Boot Device [Network:IBA GE SLo] 4th Boot Device [Network:IBA GE SLo]	Specifies the boot sequence from the available devices. A device enclosed in parenthesis has been disabled in the corresponding type menu. ← Select Screen ↑↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.	

Feature	Option	Description
Boot Device Priority		
1st Boot Device 2nd Boot Device 3rd Boot Device 4th Boot Device	xx,xxx-xxxxx:xxx	Settings for boot priority. These can be customized depending on your preference. NOTE: When you select a boot category from the boot menu, a list of devices in that category appears.
	xx,xxx-xxxxx:xxx	
	Disabled	

5.9.3 Hard Disk Drives Sub-menu

Use this screen to select options for the Hard Disk Drives. Use the up and down arrow (↑/↓) keys to select an item. Use the Plus and Minus (+/-) keys to change the value of the selected option.

BIOS SETUP UTILITY	
Boot	
Hard Disk Drives	Specifies the boot sequence from the available devices.
1st Drive	[USB:Kingston DataI]
2nd Drive	[SATA:PS-ST3808110A]
3rd Drive	[RAID:HITACHI HUA72]
← Select Screen ↑↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit	

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Feature	Option	Description
Hard Disk Drives		
1st Drive	xx,xxx-xxxx:xxx	Specifies the boot sequence from the available devices.
2nd Drive		
3rd Drive	Disabled	

5.9.4 CD/DVD Drives Sub-menu

Use this screen to select options for the Hard Disk Drives. Use the up and down arrow (↑/↓) keys to select an item. Use the Plus and Minus (+/-) keys to change the value of the selected option.

BIOS SETUP UTILITY	
Boot	
CD/DVD Drives	Specifies the boot sequence from the available devices.
1st Drive	[USB:TSSTcorp CD/DV]
2nd Drive	[USB:PepperC Virtual]
3rd Drive	[USB:PepperC Virtual]
 ← Select Screen ↑↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit	
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Feature	Option	Description
CD/DVD Drives		
1st Drive	xx,xxx-xxxxx:xxx	Specifies the boot sequence from the available devices.
2nd Drive		
3rd Drive	Disabled	

5.10 Security Menu

The system can be configured so that all users must enter a password every time the system boots or when BIOS Setup is entered, using either the Supervisor password or User password. The Supervisor and User passwords activate two different levels of password security. If you select password support, you are prompted for a one to six character password. Type the password on the keyboard. The password does not appear on the screen when typed. Make sure you write it down. If you forget it, you must clear CMOS and reconfigure.

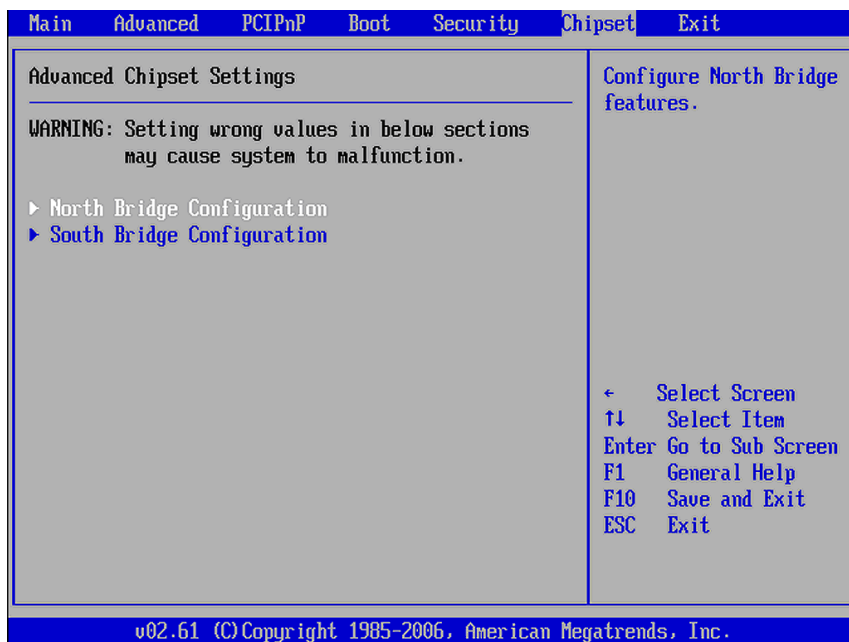
Main	Advanced	PCIPnP	Boot	Security	Chipset	Exit
Security Settings				Install or Change the password.		
Supervisor Password :Not Installed User Password :Not Installed						
Change Supervisor Password Change User Password						
Boot Sector Virus Protection [Disabled]						
				+ Select Screen ↑↓ Select Item Enter Change F1 General Help F10 Save and Exit ESC Exit		
v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.						

Feature	Option	Description
Security Settings		
Supervisor Password:	Not Installed	If the password has been set, Installed displays. If no password is set, Not Installed displays.
	Installed	
User Password:	Not Installed	If the password has been set, Installed displays. If no password is set, Not Installed displays.
	Installed	
Change Supervisor Password	—	Selects this option to change or install Supervisor Password.

Change User Password	—	Selects this option to change or install User Password.
Boot Sector Virus Protection	Disabled	When it is set to [Enabled], BIOS will issue a virus warning message and beep if a write to the boot sector or the partition table of the HDD is attempted.
	Enabled	

5.11 Chipset Menu

This menu allows the user to customize functions of the AMD Chipsets. North Bridge configuration contains options for Memory & CPU settings. Select a menu by highlighting it using the Arrow (↑/↓) keys and pressing Enter. The settings are described on the following pages.



5.11.1 North Bridge Configuration Sub-Menu

This menu gives options for customizing North Bridge Chipset settings. Select a menu by highlighting it using the Arrow (↑/↓) keys and pressing Enter. The settings are described on the following pages.

NorthBridge Chipset Configuration		
Chipset		
Hyper-Threading Function	[Enabled]	Enable/Disable Hyper-Threading Functionality.
Crystal Beach / DMA	[Enabled]	
MCH Channel Mode	[Channel Interleave]	
Patrol Scrubbing	[Enabled]	
Demand Scrubbing	[Enabled]	
Boots Graphic Adapter Priority	[Auto]	
Read Completion Coalescing	[Auto]	
Lan	[Enabled]	
Lan OP-ROM	[Enabled]	
		← Select Screen ↑↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.		

Feature	Option	Description
North Bridge Chipset Configuration		
Hyper-Threading Function	Enabled	Enable or disable hyper-threading functionality
	Disabled	
Crystal Beach / DMA	Disabled	Crystal Beach / DMA configuration
	Enabled	
MCH Channel Mode	Channel Sequencing	Sequencing: allocates address channel 0 then 1. Interleaving: interleaves channel across channels.
	Channel Interleave	

Patrol Scrubbing	Enabled	ECC patrol scrubbing enabled / disabled
	Disabled	
Demand Scrubbing	Enabled	ECC demand scrubbing enabled / disabled
	Disabled	
Boots Graphic Adapter Priority	Auto Onboard VGA	Select which graphic controller to use as the primary boot device.
Read Completion Coalescing	Disabled	Read returns of > 64B
	Enabled	
	Auto	
Lan	Enabled	Enable/Disable the onboard Lan
	Disabled	
Lan OP-ROM	Enabled	Enable/Disable the onboard Lan option ROM
	Disabled	

5.11.2 South Bridge Configuration Sub-Menu

This menu gives options for customizing South Bridge Chipset settings. Select a menu by highlighting it using the Arrow (↑/↓) keys and pressing Enter. The settings are described on the following pages.

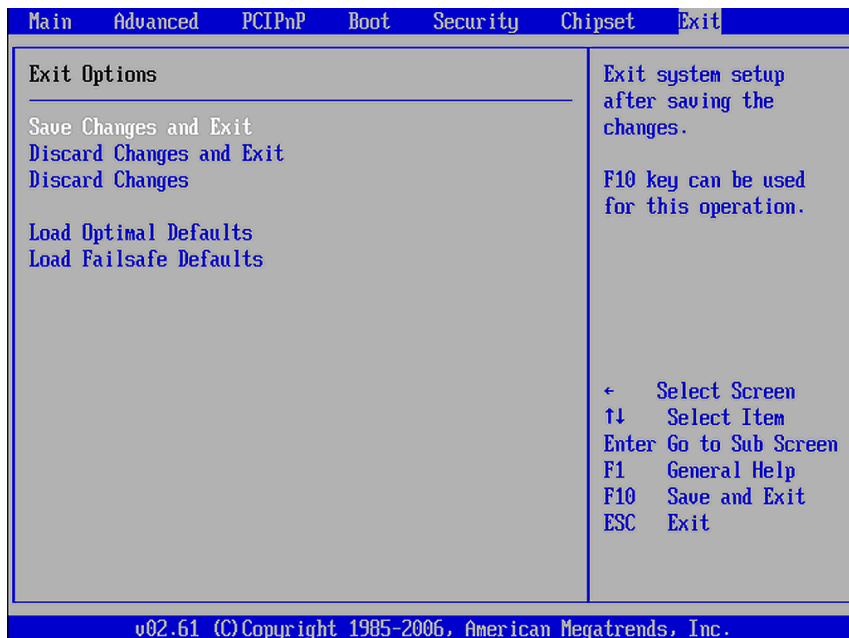
BIOS SETUP UTILITY	
Chipset	
South Bridge Chipset Configuration	Options
SMBUS Controller [Enabled]	Enabled
Restore on AC Power Loss [Power Off]	Disabled
SLP_S4# Min. Assertion Width [1 to 2 seconds]	
Onboard UGA [Enabled]	
Chassis intrusion detection [Disabled]	
	← Select Screen ↑↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
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Feature	Option	Description
South Bridge Chipset Configuration		
SMBUS Controller	Enabled	Enable or disable SMBUS controller
	Disabled	
Restore on AC Power Loss	Power Off	Configure how the system board responds to a power failure.
	Power On	
	Last State	
SLP_S4# Min. Assertion Width	4-5 seconds	Select Timing for SLP_S4#
	3-4 seconds	
	2-3 seconds	
	1-2 seconds	

Onboard VGA	Enabled	Enable or disable Onboard VGA controller
	Disabled	
Chassis Intrusion Detect	Disabled	Enable/Disable the function of chassis intrusion detect. When chassis open event is detected, BIOS will record the event.
	Enabled	

5.12 Exit Menu

You can display an Exit BIOS Setup option by highlighting it Arrow (↑/↓) keys and pressing Enter.



Save Changes and Exit

Use this option to exit setup utility and re-boot.
All new selections you have made are stored into CMOS.
System will use the new settings to boot up.

Discard Changes and Exit

Use this option to exit setup utility and re-boot.
All new selections you have made are not stored into CMOS.
System will use the old settings to boot up.

Discard Changes

Use this option to restore all new setup values that you have made but not saved into CMOS.

Load Optimal Defaults

Use this option to load default performance setup values.
Use this option when system CMOS values have been corrupted or modified incorrectly.

Load Failsafe Defaults

Use this option to load all default failsafe setup values.

Use this option when troubleshooting.

NOTE

Appendix I: Cable Connection Tables

1. System Fan Connector

System Fan to S537M MB		
System Fan	Connect to	S537M MB
Fan1	→	FAN1
Fan2	→	FAN2
Fan3	→	FAN3
Fan4	→	FAN4

2. SATA HDD Cable

SATA/SAS Backplane (BP) Board to S537M MB			
Cable	SATA/SAS BP Board	Connect to	S537M MB
SATA Cable	J24	→	SATA0
	J25	→	SATA1
	J26	→	SATA2
	J27	→	SATA3

3. Control Cable and USB Cable

SATA/SAS BP Board to Power Distribution Board (PDB)			
	SATA/SAS BP Board	Connect to	PDB
Control Cable	J101	→	J1

Front Panel Board (FPB) to S537M MB			
	FPB	Connect to	S537M MB
Control Cable	J1	→	J5
USB Cable	J3	→	J4

FPB to SATA/SAS BP			
	FPB	Connect to	SATA/SAS BP Board
Control Cable	J1	→	J100

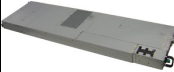
Power Supply Cables

PSU to PDB		
PSU	Connect to	PDB
Gold Finger	→	J100

PDB to S537M MB		
PDB	Connect to	S537M MB
PWR1	→	PW1

PDB to SATA/SAS BP Board		
PDB	Connect to	SATA/SAS BP Board
ATX1	→	ATX100

Appendix II: FRU Parts Table

 					
Item	Model Number	Part Number	Picture	Quantity	Description
Single Node	B537MX188V4H	-		1	Single node of YR188-B537M System
PCBA	M2087-R	-		1	PCI-E X16 1U Riser Card
	M3296	-		1	SMDC IPMI Card
HDD Tray	CHDT-0140	451789200004		4	2.5" Dummy HDD Carrier Module
Power Supply	CPSU-0410	471015200219		1	Delta DPS-450KB D, 450W, 1U
FAN	CFAN-0360	336252012364		3	15800RPM, 40*40*56 MM
Rack Mounting Part	CRAL-0150	340783300039		1	Slide Rail Kit



Note:

The table is subject to change without notice. Please visit our Web site at <http://www.tyan.com> for latest update.

NOTE

Appendix III: Technical Support

If a problem arises with your system, you should first turn to your dealer for direct support. Your system has most likely been configured or designed by them and they should have the best idea of what hardware and software your system contains. Hence, they should be of the most assistance for you. Furthermore, if you purchased your system from a dealer near you, take the system to them directly to have it serviced instead of attempting to do so yourself (which can have expensive consequence).

If these options are not available for you then MiTAC International Corporation can help. Besides designing innovative and quality products for over a decade, MiTAC has continuously offered customers service beyond their expectations. TYAN's website (<http://www.tyan.com>) provides easy-to-access resources such as in-depth Linux Online Support sections with downloadable Linux drivers and comprehensive compatibility reports for chassis, memory and much more. With all these convenient resources just a few keystrokes away, users can easily find their latest software and operating system components to keep their systems running as powerful and productive as possible. MiTAC also ranks high for its commitment to fast and friendly customer support through email. By offering plenty of options for users, MiTAC serves multiple market segments with the industry's most competitive services to support them.

TYAN's tech support is some of the most impressive we've seen, with great response time and exceptional organization in general." — Anandtech.com

Please feel free to contact us directly for this service at tech-support@tyan.com

Help Resources:

1. See the beep codes section of this manual.
2. See the TYAN's website for FAQ's, bulletins, driver updates, and other information: <http://www.tyan.com>
3. Contact your dealer for help before calling TYAN.
4. Check the TYAN user group: alt.comp.periphs.mainboard.TYAN

Returning Merchandise for Service

During the warranty period, contact your distributor or system vendor FIRST for any product problems. This warranty only covers normal customer use and does not cover damages incurred during shipping or failure due to the alteration, misuse, abuse, or improper maintenance of products.

Note:



A receipt or copy of your invoice marked with the date of purchase is required before any warranty service can be rendered. You may obtain service by calling the manufacturer for a Return Merchandise Authorization (RMA) number. The RMA number should be prominently displayed on the outside of the shipping carton and the package should be mailed prepaid.

TYAN will pay to have the board shipped back to you.

TYAN® YR188-B537M Service Engineer's Manual V1.00

Document No.: D2005-100